

Crosswalks Linking Apprenticeship Training and Workforce Courses How to Use an Apprenticeship Crosswalk

Apprenticeship Crosswalks have been developed to help Texas community colleges, employers, and training organizations work together to assure college credit for individuals who have completed a registered apprenticeship program.

Crosswalks were designed using Work Plans approved by the Department of Labor (DOL) for specific industry sectors. Work Plans were cross-walked with courses in the Texas Higher Education Coordinating Board's Workforce Education Curriculum Manual (WECM) by teams of community college faculty and industry-specific subject matter experts. Thirty-eight individuals from seven community colleges and eight Department of Labor-registered apprenticeship organizations participated.

UNDERLYING ASSUMPTIONS

1. The crosswalks are designed to encourage and help colleges to be more efficient and consistent when developing a Memorandum of Understanding (MOU) and/or partnership with DOL-registered apprenticeship programs in Texas.
2. The crosswalks are designed to be used when an individual who has completed an apprenticeship requests transferability.
3. The crosswalks are applicable only when a community college offers those courses/programs.
4. The community college follows its own policies and procedures regarding transfer of credit or credit for prior learning.
5. The community college decides which courses in a program will transfer.

HOW TO USE THE CROSSWALK

For students who complete an apprenticeship and wants to pursue a community college certificate or degree:

1. Student takes a copy of the certification of completion for an apprenticeship to a community college that has an MOU with the student's registered apprenticeship organization. The student may also take the certificate of completion to any other community college in Texas that offers a program of study that is the same as the completed apprenticeship.
2. Student visits with appropriate community college personnel to determine which courses the student can receive credit for, based on the completed apprenticeship.
3. College procedures and policies dictate which courses the student may receive credit for.

For Community Colleges that have a program for which a crosswalk has been developed:

1. College can use the crosswalk to develop a relationship with a registered apprenticeship program that provides its own classroom training and, subsequently, write an MOU defining specific courses for which the apprentice may receive college credit upon completion of the apprenticeship.
2. College can use the crosswalk to determine for which courses an individual may receive credit upon completion of an apprenticeship in a particular field. This does not depend on the college having an MOU with the training organization with which the individual completed the apprenticeship.

**For Registered Apprenticeship Organizations that provide their own classroom training:**

Registered apprenticeship organizations should work with a community college to develop a pathway through which their apprentices can move from an apprenticeship to the community college to earn an associate degree and possibly, beyond.

Electrical

	<i>Basic Electricity Theory</i>	<i>Fundamentals of Electricity I</i>	<i>Fire Protection Systems</i>	<i>Introduction to Electrical Safety & Tools</i>	<i>Commercial/Industrial Blueprint Reading</i>	<i>National Electrical Code I</i>	<i>National Electrical II</i>	<i>Fundamentals of Electricity</i>	<i>Residential Wiring</i>	<i>Commercial Wiring</i>	<i>Motors & Transformers</i>	<i>Cooperative Education- Electrical & Power Transmission Install, General</i>
	ELPT 1311	ELPT 1319	OSHT 1321	ELPT 1321	CNBT 2310	ELPT 1325	ELPT 2325	ELPT 1320	ELPT 1329	ELPT 1345	ELPT 2305	ELPT XX80, XX81
Skills												
Basic Electrical Mathematics	X	X				X	X	X	X	X	X	
Safety & First Aid	X	X		X				X	X	X	X	
Care & Use of Hand Tools				X								
Care & Use of Power-Operated Tools				X								
Blueprint Reading & Electrical Symbols					X				X	X		
National Electrical Code Requirements	X	X	X	X		X	X		X	X	X	
Electrical Fundamentals & Basic Theory	X	X						X	X	X	X	
Principles of Alternating Current Circuits								X			X	
Principles & Circuitry of Direct Current	X	X									X	
Portable Electric Measuring Devices	X	X		X				X	X	X	X	
Wiring Methods	X	X	X			X	X	X	X	X	X	
Low Voltage Circuits		X	X			X		X				
Appliances					X	X	X					
Interior Distribution					X	X			X	X		
Industrial & Commercial Calculations						X	X			X	X	
Motors & Generator							X	X			X	
Practical Circuit Sketching					X		X		X	X		
Transformers							X			X	X	
Illumination & Design					X	X	X		X	X		
Primary Distribution							X			X	X	
Fundamental of Electronics								X				
Medium Voltage Circuitry						X	X			X	X	

HVAC

	<i>EPA Recovery Certification Program</i>	<i>Basic Electricity for HVAC</i>	<i>Air Conditioning Control Principles</i>	<i>Refrigeration Principles</i>	<i>Residential Air Conditioning</i>	<i>Gas & Electric Heating</i>	<i>Air Conditioning Troubleshooting</i>	<i>Air Conditioning Installation & Startup</i>	<i>Residential Air Conditioning Systems Design</i>	<i>Heat Pumps</i>	<i>Commercial Air Conditioning</i>	<i>Commercial Refrigeration</i>	<i>Specialized Commercial Refrigeration</i>	<i>Industrial Air Conditioning</i>	<i>Advanced HVAC for Plumbers/Pipefitters</i>
	HART 1056, 1256, 1356	HART 1001, 1301, 1401	HART 1003, 1303, 1403	HART 1007, 1307, 1407	HART 1041, 1341, 1441	HART 1045, 1345, 1445	HART 2036, 2336, 2436	HART 2038, 2338, 2438	HART 2045, 2345, 2445	HART 2049, 2349, 2449	HART 2014, 2341, 2441	HART 2042, 2342, 2442	HART 2057, 2357, 2457	HART 2043, 2343, 2443	PFPB 2030
Skills															
Basic Safety		X		X											
Introduction to Hand Tools		X		X											
Introduction to Blueprints									X						
Introduction to HVAC				X											
Copper & Plastic Piping Practices								X							
Soldering & Brazing								X							
Basic Electricity		X													
Introduction to Cooling				X	X										
Introduction to Heating			X						X						
Air Distribution Systems									X						
Chimney, Vents & Flues								X							
Alternating Current		X													
Basic Electronics		X	X												
Electric Heating			X			X									
Introduction to Control Circuit Troubleshooting		X	X												
Equipment						X	X								
Metering Devices				X	X										
Compressors			X	X	X										
Heat Pumps										X					
Leak Detection, Evacuation, Recovery & Charging				X	X										
Planned Maintenance															
Troubleshooting Gas Heating						X	X								
Troubleshooting Electric Heating						X	X								
Troubleshooting Cooling				X	X	X	X								
Troubleshooting Heat Pumps							X			X					
Troubleshooting Accessories							X								
Troubleshooting Electronic Controls							X								
Hydronic Heating & Cooling Systems			X		X	X	X			X					
Airside Systems					X	X	X			X					
Air Properties & Balancing				X					X	X					
Advanced Blueprint Reading									X						
Indoor Air Quality					X										
Water Treatment														X	
System Start-up & Shutdown				X											
Heating & Cooling System Design									X						
Commercial & Industrial Refrigeration											X	X			

MACHINIST

	<i>Beginning Machine Shop</i>	<i>Bench Work & Layout</i>	<i>Manufacturing Materials & Processes</i>	<i>Basic Machine Shop I</i>	<i>Basic Machine Shop II</i>	<i>Basic Lathe</i>	<i>Intermediate Lathe Operations</i>	<i>Advanced Machining II</i>	<i>Advanced Machining I</i>	<i>Basic Milling Operations</i>	<i>Intermediate Milling Operations</i>	<i>Grinders, Outside, Internal, Surface</i>	<i>Metals & Heat Treatment</i>	<i>Introduction to Metallurgy</i>	<i>Precision Tools & Measurement</i>	<i>Machine Tool Repair</i>	<i>Machine Shop Mathematics</i>	<i>Print Reading for Machining Trades</i>	<i>Basic Computer-Aided Drafting</i>	<i>Operation of CNC Turning Centers</i>	<i>Operation of CNC Machining Centers</i>	<i>Computerized Numerical Control Programming</i>	<i>Advanced CNC Machining</i>	<i>Fundamentals of Computerized Numerical Controlled (CNC) Machine Controls</i>	<i>Intermediate Machining II</i>	<i>Advanced Milling Operations</i>	<i>Advanced Lathe Operations</i>	
	MCHN 1300	MCHN 1032, 1332	MCHN 1019, 1319, 1419	MCHN 1038, 1338, 1438	MCHN 1041, 1341, 1441	MCHN 1008, 1308, 1408	MCHN 1068, 1368, 1468	MCHN 2045, 2345, 2445	MCHN 2041, 2341, 2441	MCHN 1013, 1313, 1413	MCHN 2002, 2302, 2402	MCHN 1035, 1335	MCHN 1005, 1305, 1405	METL 1001, 1301	MCHN 1020, 1320	MCHN 1016, 1416	MCHN 1043, 1343	MCHN 1002, 1302	DFTG 1009, 1309, 1409	MCHN 2031, 2331, 2431	MCHN 2034, 2334, 2434	MCHN 2044, 2344, 2444	MCHN 2035, 2335, 2435	MCHN 2003, 2303, 2403	MCHN 1064, 1364, 1464	MCHN 2337, 2437	MCHN 2033, 2333, 2433	
Ferrous Metals & Alloys												X	X															
Nonferrous Metals & Alloys												X	X															
Cutting Tool Materials																									X			
Carbide Grade													X												X			
Tool Holders for Turning							X																					X
Speed & Feed Section					X			X																				
CNC Programming & CAM																												
CNC Part Program																												
CAD/CAM Overview																												
Create a Turning Program																				X	X							
Turning Calculations																				X		X						
Create a Milling Program																					X	X						
Milling Calculations																					X	X						
Canned Cycles																				X	X	X						
Interpreting GD&T															X			X										
Trig Sine Bar Applications															X		X											
Mechanical Properties of Metal													X	X														
Physical Properties of Metal													X	X														
Overview of Exotic Metals													X	X														
Intro to EDM	X																									X		
Troubleshooting-Identifying Problems	X																											
Troubleshooting-Taking Corrective Action	X																											
Intro to Workholding	X																											
Supporting & Locating Principles	X																											
Locating Devices	X																											
Clamping Basics	X																											
Chucks, Collets & Vises	X																											
Fixture Body Construction								X																		X		
Fixture Design Basics								X																		X		
Drill Bushing Selections																										X		

MACHINIST

Advanced Computer-
Aided Manufacturing
(CAM)

Introduction to Computer-
Aided Manufacturing

Precision Tools and
Measurement

	MCHN 2038, 2338, 2438	MCHN 1026, 1326, 1426	MCHN 2x02
Skills			
Basic Measurement			
Basics of the Optical Comparator			
Basics of the Manual Mill			
Basics of the Engine Lathe			
Metal Removal Process			
Safety for Metal Cutting			
What is Cutting?			
Machines for Metal Cutting			
Cutting Processes			
Sawing Fundamentals			
Cutting Variables			
Cutting Fluids			
Lockout/Tagout Procedures			
Hand & Power Tools Safety			
Metal Working Fluid Safety			
Math Fundamentals			
Math Fractions & Decimals			
Math Units of Measurement			
Basics of Tolerance			
Blueprint Reading			
Geometry Lines & Angles			
Geometry Triangles			
Shop Geometry Overview			
Shop Algebra Overview			
Computer Aided Engineering			
Mechanics of CNC			
Basics of CNC Turning Center			
Basics of CNC Machining Center			
CNC Coordinates			
CNC Manual Operations			
CNC Offsets			
GE Fanuc Mill: Control Panel Overview			
GE Fanuc Mill: Lathe Panel Overview			
GE Fanuc Mill: Entering Offsets			
GE Fanuc Lathe: Entering Offsets			
Overview of Threads			

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Aided Manufacturing

Precision Tools and
Measurement

	MCHN 2038, 2338, 2438	MCHN 1026, 1326, 1426	MCHN 2x02
Overview Manual Mill Setup			X
Overview Engine Lathe Setup			
Benchwork & Layout Operations			
Manual Mill Operations			
Holemaking on the Mill			X
Threading on the Engine Lathe			
Band Saw Blade Section			
Tool Geometry			
Milling Geometry			X
Drill Geometry			
Shop Trig Overview			
Trig, Sine, Cosine & Tangent			
Interpreting Blueprints			
CNC Specs for Mill			
CNC Specs for Lathe			
CNC Controls: GE Fanuc Mill: Locating Program Zero			
CNC Controls: GE Fanuc Lathe: Locating Program Zero			
CNC Controls: GE Fanuc Mill: Program Execution			
CNC Controls: GE Fanuc Lathe: Program Execution			
CNC Controls: GE Fanuc Mill: Program Storage			
CNC Controls: GE Fanuc Lathe: Program Storage			
CNC Controls: GE Fanuc Mill: First Part Runs			
CNC Controls: GE Fanuc Lathe: First Part Runs			
Inspection Intro to GD&T 200			
Inspection Intro to GD&T 205			
Inspecting with Optical Comparators			
Hole Inspection			
Thread Inspection			
Intro to Materials			
Metal Manufacturing			
Metal Classification			

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Introduction to Computer-
Aided Manufacturing

Precision Tools and
Measurement

	MCHN 2038, 2338, 2438	MCHN 1026, 1326, 1426	MCHN 2x02
Ferrous Metals & Alloys			
Nonferrous Metals & Alloys			
Cutting Tool Materials			
Carbide Grade			
Tool Holders for Turning			
Speed & Feed Section			
CNC Programming & CAM	x		
CNC Part Program			
CAD/CAM Overview		x	
Create a Turning Program			
Turning Calculations			
Create a Milling Program			
Milling Calculations			
Canned Cycles			
Interpreting GD&T			
Trig Sine Bar Applications			
Mechanical Properties of Metal			
Physical Properties of Metal			
Overview of Exotic Metals			
Intro to EDM			
Troubleshooting-Identifying Problems			
Troubleshooting-Taking Corrective Action			
Intro to Workholding			
Supporting & Locating Principles			
Locating Devices			
Clamping Basics			
Chucks, Collets & Vises			
Fixture Body Construction			
Fixture Design Basics			
Drill Bushing Selections			

MASONRY

	Masonry I	Masonry II	Masonry III	Masonry IV	Masonry V	Masonry VI
	MBST 1407	MBST 1409	MBST 2407	MBST 2409	MBST 2447	MBST 2449
Skills						
Use and maintain equipment and tools for the craft, including trowels, levers, rulers, jointers and brick saws	X	X	X	X	X	X
Use masonry terms	X	X	X	X	X	X
Practice math necessary for the craft, including whole numbers, fractions, addition and multiplication	X	X	X	X	X	X
Learn and practice safety guidelines	X	X	X	X	X	X
Practice necessary introductory skills such as spreading mortar, completing a full head joint, hanging a line and using a level	X	X				
Build and brick a clock wall using a level	X	X				
Calculate, mix and spread mortar	X	X				
Understand how modular increments are used to build a building			X	X		
Build a lead in, both block and brick			X	X		
Understand blueprints and building plans, especially structural and architectural plans used in the craft			X	X		
Estimate materials needed based on blueprints			X	X		
Work with speed lead/story pole			X	X		
Practice different ways to lay bricks			X	X		
Learn different types of joints			X	X		
Lay out a wall					X	X
Build projects to demonstrate mastery of masonry guidelines					X	X
Learn specifics of blueprints including use of various detailed schedules					X	X
Practice tuck point and brick repair					X	X
Build an arch					X	X
Understand construction of fireplaces and lintels/angle iron					X	X
Understand how state and federal guidelines affect the craft	X					
Learn different façade & finishes and used reinforced mortar		X		X		
Construct piers	X					

MILLWRIGHT

	<i>Millwright I</i>	<i>Millwright II</i>	<i>Millwright III</i>	<i>Millwright IV</i>	<i>Millwright V</i>	<i>Print Reading for Machining Trades</i>	<i>Fundamentals of Computer Numerical Controlled (CNC) Machine Controls</i>	<i>Millwright VI</i>	<i>Hydraulics & Pneumatics</i>	<i>Millwright VII</i>	<i>Millwright VIII</i>
	MCHN 1025, 1325, 1425	MCHN 1029, 1329, 1429	MCHN 2005, 2305, 2405	MCHN 2007, 2307, 2407	MCHN 2012, 2312, 2412	MCHN 1002, 1302	MCHN 2003, 2303, 2403	MCHN 2014, 2314	HYDR 1045, 1345, 1445	MCHN 2016, 2316	MCHN 2018, 2318
Skills											
Safety & Accident Prevention	X	X	X	X	X	X		X	X	X	X
Intro to Millwright	X	X									
Math for Trades	X	X	X	X	X	X		X	X	X	X
Blueprint & Layout		X	X	X	X	X			X	X	
Lubrication				X	X			X		X	X
Hydraulics & Pneumatics				X	X			X	X	X	X
Mechanical Drive				X	X			X	X	X	X
Conveyor			X	X	X	X			X		
Machine Align					X			X			
Pump Repair								X	X	X	X
Compressor Fan & Blower									X	X	
Turbine			X	X		X			X	X	X
Bearings					X			X	X	X	X
Welding			X	X		X					
Seals/Mechanical Seals								X	X	X	X
Gear Box								X	X	X	X
Rigging Signal					X	X			X		X
Aerial Lift	X	X	X	X	X			X	X	X	X
PITO	X	X	X	X	X			X	X	X	X
Advanced Optic Alignment				X	X	X		X		X	X

PLUMBER

	Basic Blueprint Reading for Pipefitters	Basic Blueprint Reading for Plumbers	Basic Pipefitting Skills	Introduction to the Plumbing Trade	Plumbing Maintenance & Repair	Plumbing Codes I	Pipefitting Fabrication & Blueprint Reading	Backflow Prevention	Plumbing & Pipefitting Equipment and Safety	Pipe Fabrication & Installation I	Piping Standards & Materials	Residential Construction Plumbing I	Intermediate Blueprint Reading for Pipefitters	Commercial Construction & Fixture Setting	Pipe Fabrication & Installation II	Residential Construction Plumbing II
	PPFB 1005.1 305.14 05	PPFB 1006.1 306	PPFB 1008.1 308.14 08	PPFB 1013.1 413	PPFB 1021.1 321.14 21	PPFB 1023.1 323	PPFB 1043.1 343.14 43	PPFB 1047.1 247.13 47	PPFB 1050.1 350.14 50	PPFB 2007.2 307.24 07	PPFB 2008.2 308.24 09	PPFB 2009.2 309.24 09	PPFB 2010.2 310	PPFB 2036.2 336.24 36	PPFB 2041.2 341.24 41	PPFB 2041.2 341.24 41
International Plumbing Code						X						X		X		
IPC	X	X				X				X	X	X		X	X	X
Client Customer Relations				X	X					X		X		X		
On-the-Job Learning			X	X	X	X	X	X	X	X	X	X	X	X	X	X
Care and Use of Tools, Equipment and Material for Plumbing and Heating			X	X			X	X	X		X			X	X	
Preparation of Tools, Equipment and Material for Plumbing and Heating			X	X			X	X			X	X	X			
Drainage Piping and Fittings			X	X	X	X				X	X	X		X		
Venting					X	X				X		X		X		
Single Fixture Installations, Setting Fixtures			X		X					X		X		X	X	X
Pipecutting, Reaming, Threading & Flanging			X				X	X	X	X		X		X	X	
Install & Maintain Steam and Hot Water Heating Systems														X		X
Hot and Cold Water Distribution Systems	X	X	X							X	X	X	X	X		X
High & Low Pressure Boilers			X				X	X						X	X	
Water Heater Installation												X		X		X
Water Pumps						X								X	X	
Code Review and Plumbing Math Review			X			X	X				X		X		X	
Sizing DWV and Storm Systems			X	X								X		X	X	
Locating Buried Sewer and Water Lines												X				
Water Supply Treatment														X		
Hot Tubs																X
Corrosive-Resistant Waste Piping															X	
Plumbing for Mobile Home Parks												X				X

SHEET METAL

	TECM 1001,1301 ,1401	MCHN 1043,1343	TECM 1049,1349	TECM 1041,1341	TECM 1343	DFTG 2017,2317 ,2417	DFTG 2040,2350 ,2450	LOTT 1343,1443	TECM 1017,1317	TECM 1303,1403	ABDR 1059,1359 ,1459	WLDG 1017,1317 ,1417	WLDG 1053,1353 ,1453	WLDG 2035,2335 ,2435	HART 1000,1300 ,1400	WLDG 1023,1323 ,1423	CNBT 2046,2346 ,2446	HART 1010,1310 ,14103	HART 2050,2350 ,2450	HART 2058,2358 ,2458	PEPB 1037,1337	HART 1001,1301 ,1401	ARCE 1342
	Industrial Mathematics	Machine Shop Mathematics	Technical Math	Technical Algebra	Technical Algebra & Trigonometry	Descriptive Geometry	Geometric Dimensioning & Tolerancing	Geometrical Optics	Technical Trigonometry	Technical Calculations	Sheet Metal Fabrication I	Introduction to Layout & Fabrication	Intermediate Layout & Fabrication	Advanced Technologies in Mechanical Design & Drafting	HVAC Duct Fabrication	Welding Safety, Tools & Equipment	Construction Management III	HVAC Shop Practices & Tools	HVAC Zone Controls	Testing, Adjusting, & Balancing HVAC Systems	Basic HVAC for Plumbing/Pipefitting	Basic Electricity for HVAC	Codes, Specifications & Contract Documents
Skills																							
Applied Math/Industrial Math	x		x										x	x	x		x	x		x	x	x	
Machine Shop Math	x	x					x						x	x	x		x	x		x	x		
Occupational Math	x		x				x						x	x	x		x	x		x	x		
Technical Math			x										x	x	x		x	x		x	x		
Technical Algebra			x										x	x	x		x	x		x	x	x	
Technical Algebra & Trigonometry			x	x	x								x	x	x		x	x		x			
Descriptive Geometry						x	x						x	x	x		x	x		x	x		
Geometric Tolerancing													x	x	x		x	x		x			
Geometric Optics								x					x	x	x			x		x			
Technical Trigonometry									x				x	x	x		x	x		x			
Technical Calculations														x				x		x	x		
Sheet Metal Fabrication I	x	x	x	x	x	x	x				x	x		x	x	x		x	x	x	x		x
Sheet Metal Fabrication II	x	x	x	x	x	x	x				x	x		x	x	x		x	x	x	x		x
Introduction-Layout & Fabrication			x									x	x		x	x		x	x				x
Intermediate-Layout & Fabrication	x	x	x	x	x	x	x					x	x		x	x		x	x				x
Advanced Technologies in Mechanical Drafting & Design	x	x	x	x	x	x	x						x	x				x	x				x
HVAC Duct Fabrication	x	x	x	x	x	x	x				x	x	x	x	x			x	x				x
HVAC Troubleshooting & Repair											x								x	x		x	
Advanced HVAC														x	x				x	x		x	x
HVAC Shop & Tools											x	x	x	x	x			x	x				x
HVAC Zone Controls														x	x				x	x		x	x
Testing, Adjusting & Balancing	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x		x	x		x	x
Basic HVAC for Plumbing & Pipefitting												x								x	x		x
Advanced HVAC Plumbing & Pipefitters																				x	x		x
Basic Electrical for HVAC																				x		x	x
Codes, Specifications & Contract Docs															x		x			x	x	x	x
Blueprint Reading	x	x	x	x	x	x	x					x	x	x	x			x	x	x	x	x	x
Blueprint Reading & Sketching	x	x	x	x	x	x	x					x	x	x	x			x	x	x	x	x	x
Intro Blueprint Reading for Welders											x					x					x		
Air Conditioning Installation & Startup												x					x			x	x	x	x
Technical Drafting	x	x	x	x	x	x	x						x	x			x	x					x
Technical Illustration & Presentation																	x						x

SHEET METAL

	Industrial Mathematics	Machine Shop Mathematics	Technical Math	Technical Algebra	Technical Algebra & Trigonometry	Descriptive Geometry	Geometric Dimensioning & Tolerancing	Geometrical Optics	Technical Trigonometry	Technical Calculations	Sheet Metal Fabrication I	Introduction to Layout & Fabrication	Intermediate Layout & Fabrication	Advanced Technologies in Mechanical Design & Drafting	HVAC Duct Fabrication	Welding Safety, Tools & Equipment	Construction Management III	HVAC Shop Practices & Tools	HVAC Zone Controls	Testing, Adjusting, & Balancing HVAC Systems	Basic HVAC for Plumbing/Pipefitting	Basic Electricity for HVAC	Codes, Specifications & Contract Documents
	TECM 1001,1301,1401	MCHN 1043,1343	TECM 1049,1349	TECM 1041,1341	TECM 1343	DFTG 2017,2317,2417	DFTG 2040,2350,2450	LOTT 1343,1443	TECM 1017,1317	TECM 1303,1403	ABDR 1059,1359,1459	WLDG 1017,1317,1417	WLDG 1053,1353,1453	WLDG 2035,2335,2435	HART 1000,1300,1400	WLDG 1023,1323,1423	CNBT 2046,2346,2446	HART 1010,1310,1410	HART 2050,2350,2450	HART 2058,2358,2458	PEPB 1037,1337	HART 1001,1301,1401	ARCE 1342
Technical Writing I																	X	X		X			X
Technical Writing II																	X	X		X			X
Basic Construction Safety																	X	X		X		X	X
Construction Site Safety & Health																	X	X		X		X	X
Workplace Safety & Health																	X	X		X		X	X
Leadership																	X			X			
Construction Management I														X		X				X			X
Construction Management II												X		X		X				X			X
Construction Management III														X		X				X			X
Intro to Project Management												X		X						X			X
Introduction to Welding												X		X	X						X	X	
Fundamentals to Arc Welding															X			X			X	X	
Shielded Metal Arc Welding																X		X			X	X	
Advanced Shielded Metal Arc Welding																X		X			X	X	
Advanced Gas Metal Arc Welding																X		X				X	
Advanced Gas Tungsten Arc Welding																X		X				X	
Fundamentals of Oxy-Fuel Welding & Cutting																X		X					
Fundamentals of Tungsten Arc Welding																X		X					X
Intro to Welding using Multiple Processes																X		X					X
Welding Safety Tools & Equipment																X		X					X
Orbital Tube Welding																		X			X	X	
Building Codes & Inspections											X				X		X	X			X	X	
Green Building										X							X			X		X	
OSHA Regulations Construction Industry																X	X	X		X	X	X	X
Industrial Air Conditioning											X	X	X		X		X	X		X	X	X	X
Craning Principles																	X	X			X		

SHEET METAL

	DFTG 1025,1325 ,1425	WLDG 1013,1313 ,1413	HART 2038,2338 ,2438	DFTG 1005,1305 ,1405	DFTG 2012,2312 ,2412	CNBT 1010,1110 ,1210	OSHT 1007,1307	BMGT 2009,2309	CNBT 2042,2342 ,2442	CNBT 2044,2344	WLDG 1000,1200	WLDG 1002,1202	WLDG 2043,2443 ,2543	WLDG 2047,2447 ,2547	WLDG 2051,2451 ,2551	WLDG 1004,1204	WLDG 1006,1206	WLDG 1007,1307 ,1407	WLDG 1023,1323 ,1423	WLDG 2050,2350 ,2450	CNBT 1042,1342 ,1442	CNBT 2017,2317 ,2417	OSHT 1005,1305 ,1405	HART 2043,2343 ,2443
	Blueprint Reading & Sketching	Introduction to Blueprint Reading for Welders	Air Conditioning Installation & Startup	Technical Drafting	Technical Illustration & Presentation	Basic Construction Safety	Construction Site Safety & Health	Leadership	Construction Management I	Construction Management II	Introduction to Welding	Fundamentals of Gas Metal Arc Welding (GMAW)	Advanced Shielded Metal Arc Welding (SMAW)	Advanced Gas Metal Arc Welding (GMAW)	Advanced Gas Tungsten Arc Welding (GTAW)	Fundamentals of Oxy-Fuel Welding & Cutting	Fundamentals of Gas Tungsten Arc Welding (GTAW)	Introduction to Welding Using Multiple Processes	Welding Safety, Tools & Equipment	Orbital Tube Welding	Building Codes & Inspections	Green Building	OSHA Regulations- Construction Safety	Industrial Air Conditioning
Skills																								
Applied Math/Industrial Math	x	x	x	x	x				x		x	x	x	x	x	x	x	x	x	x	x	x		x
Machine Shop Math	x	x		x	x				x		x	x	x	x	x	x	x	x	x	x	x	x		x
Occupational Math	x	x		x	x				x		x	x	x	x	x	x	x	x	x	x	x	x		x
Technical Math	x	x	x	x	x				x				x	x	x	x	x	x	x	x	x	x		x
Technical Algebra	x	x	x	x	x				x		x	x	x	x	x	x	x	x	x	x	x	x		x
Technical Algebra & Trigonometry	x	x		x	x					x												x		x
Descriptive Geometry	x	x		x	x					x	x											x		x
Geometric Tolerancing	x	x		x	x					x	x											x		x
Geometric Optics	x	x		x	x					x													x	x
Technical Trigonometry	x	x		x	x					x													x	x
Technical Calculations				x	x					x													x	x
Sheet Metal Fabrication I	x			x	x						x	x	x	x	x	x	x	x	x	x	x	x		x
Sheet Metal Fabrication II	x			x	x						x	x	x	x	x	x	x	x	x	x	x	x		x
Introduction-Layout & Fabrication	x								x		x	x	x	x	x	x	x	x	x	x	x			x
Intermediate-Layout & Fabrication	x								x		x	x	x	x	x	x	x	x	x	x				x
Advanced Technologies in Mechanical Drafting & Design	x			x	x				x														x	x
HVAC Duct Fabrication	x		x						x			x	x										x	x
HVAC Troubleshooting & Repair	x		x							x													x	x
Advanced HVAC	x									x													x	x
HVAC Shop & Tools	x		x						x		x	x	x	x	x	x	x	x	x	x				x
HVAC Zone Controls	x		x																			x	x	x
Testing, Adjusting & Balancing	x		x			x	x	x	x													x	x	x
Basic HVAC for Plumbing & Pipefitting	x		x			x	x	x	x													x	x	x
Advanced HVAC Plumbing & Pipefitters	x		x			x	x	x		x												x	x	x
Basic Electrical for HVAC	x		x			x	x	x	x		x	x	x	x								x	x	x
Codes, Specifications & Contract Docs	x		x		x	x	x		x		x											x	x	x
Blueprint Reading	x	x	x	x	x				x		x	x	x	x	x	x	x	x	x	x	x	x		x
Blueprint Reading & Sketching	x	x	x	x	x					x	x	x	x	x	x	x	x	x	x	x	x	x		x
Intro Blueprint Reading for Welders	x	x				x	x		x		x	x	x	x	x	x	x	x	x	x				x
Air Conditioning Installation & Startup	x		x			x	x	x	x														x	x
Technical Drafting	x	x		x	x			x		x		x										x	x	x
Technical Illustration & Presentation	x	x		x	x			x		x												x	x	x

SHEET METAL

	<i>Blueprint Reading & Sketching</i>	<i>Introduction to Blueprint Reading for Welders</i>	<i>Air Conditioning Installation & Startup</i>	<i>Technical Drafting</i>	<i>Technical Illustration & Presentation</i>	<i>Basic Construction Safety</i>	<i>Construction Site Safety & Health</i>	<i>Leadership</i>	<i>Construction Management I</i>	<i>Construction Management II</i>	<i>Introduction to Welding</i>	<i>Fundamentals of Gas Metal Arc Welding (GMAW)</i>	<i>Advanced Shielded Metal Arc Welding (SMAW)</i>	<i>Advanced Gas Metal Arc Welding (GMAW)</i>	<i>Advanced Gas Tungsten Arc Welding (GTAW)</i>	<i>Fundamentals of Oxy-Fuel Welding & Cutting</i>	<i>Fundamentals of Gas Tungsten Arc Welding (GTAW)</i>	<i>Introduction to Welding Using Multiple Processes</i>	<i>Welding Safety, Tools & Equipment</i>	<i>Orbital Tube Welding</i>	<i>Building Codes & Inspections</i>	<i>Green Building</i>	<i>OSHA Regulations-Construction Safety</i>	<i>Industrial Air Conditioning</i>
	DFTG 1025,1325,1425	WLDG 1013,1313,1413	HART 2038,2338,2438	DFTG 1005,1305,1405	DFTG 2012,2312,2412	CNBT 1010,1110,1210	OSHT 1007,1307	BMGT 2009,2309	CNBT 2042,2342,2442	CNBT 2044,2344	WLDG 1000,1200	WLDG 1002,1202	WLDG 2043,2443,2543	WLDG 2047,2447,2547	WLDG 2051,2451,2551	WLDG 1004,1204	WLDG 1006,1206	WLDG 1007,1307,1407	WLDG 1023,1323,1423	WLDG 2050,2350,2450	CNBT 1042,1342,1442	CNBT 2017,2317,2417	OSHT 1005,1305,1405	HART 2043,2343,2443
Technical Writing I	x			x	x			x	x												x	x		x
Technical Writing II	x			x	x			x	x												x	x		x
Basic Construction Safety				x	x	x	x		x		x	x			x	x	x	x	x	x	x	x	x	x
Construction Site Safety & Health			x	x	x	x	x		x		x	x		x	x	x	x	x	x	x	x	x	x	x
Workplace Safety & Health			x	x	x	x	x		x		x	x		x	x	x	x	x	x	x	x	x	x	x
Leadership			x	x	x			x	x	x											x	x	x	x
Construction Management I		x		x	x			x	x												x	x	x	x
Construction Management II		x		x	x			x		x											x	x		x
Construction Management III		x		x	x			x													x	x		x
Intro to Project Management		x		x	x			x													x	x		x
Introduction to Welding		x	x			x	x		x		x	x	x	x	x	x	x	x	x	x	x			x
Fundamentals to Arc Welding		x				x	x				x	x	x	x	x	x	x	x	x	x	x			
Shielded Metal Arc Welding		x				x	x				x	x	x	x				x	x	x	x			
Advanced Shielded Metal Arc Welding		x				x	x				x	x	x	x				x	x	x	x			
Advanced Gas Metal Arc Welding		x				x	x						x	x				x	x	x				
Advanced Gas Tungsten Arc Welding		x				x	x							x				x	x	x				
Fundamentals of Oxy-Fuel Welding & Cutting		x	x			x	x				x	x	x	x	x	x	x	x	x	x				
Fundamentals of Tungsten Arc Welding		x				x	x							x			x	x	x	x				
Intro to Welding using Multiple Processes		x				x	x											x	x	x				
Welding Safety Tools & Equipment		x				x	x				x	x	x	x		x	x	x	x	x			x	
Orbital Tube Welding		x				x	x												x	x				
Building Codes & Inspections			x			x	x	x													x			
Green Building				x					x	x											x	x		
OSHA Regulations Construction Industry			x	x		x	x		x	x		x		x							x	x	x	x
Industrial Air Conditioning				x	x	x	x		x												x	x		x
Craning Principles				x	x	x	x		x	x											x			

SHEET METAL

	<i>Craning Principles</i>	<i>Geometric Tolerancing</i>	<i>Sheet Metal Fabrication II</i>	<i>Occupational Math</i>	<i>Advanced Project Management</i>	<i>Blueprint Reading for Specific Occupations</i>	<i>Technical Writing II</i>	<i>Workplace Safety</i>	<i>Introduction to Project Management</i>	<i>Shielded Metal Arc Welding</i>
	CNSE 1011,1311,1411	DFTG 2039	ABDR 2005	TECM 1013	BMGT 2030	DFTG 1023	ETWR 1043	OSHT 1003	BMGT 1021	WLDG 1003
Skills										
Applied Math/Industrial Math	x	x	x	x	x	x			x	x
Machine Shop Math	x	x	x	x	x	x			x	x
Occupational Math	x	x	x	x	x	x			x	x
Technical Math		x	x		x	x			x	x
Technical Algebra		x	x		x	x			x	x
Technical Algebra & Trigonometry		x	x		x	x			x	
Descriptive Geometry		x	x		x	x			x	
Geometric Tolerancing		x	x		x	x			x	
Geometric Optics		x	x		x				x	
Technical Trigonometry			x		x	x			x	
Technical Calculations					x				x	
Sheet Metal Fabrication I	x		x		x	x			x	x
Sheet Metal Fabrication II			x		x	x			x	x
Introduction-Layout & Fabrication	x		x		x	x			x	x
Intermediate-Layout & Fabrication			x		x	x			x	x
Advanced Technologies in Mechanical Drafting & Design			x		x	x			x	
HVAC Duct Fabrication			x		x	x			x	
HVAC Troubleshooting & Repair					x		x		x	
Advanced HVAC					x		x		x	
HVAC Shop & Tools			x		x				x	x
HVAC Zone Controls			x		x				x	
Testing, Adjusting & Balancing					x		x		x	
Basic HVAC for Plumbing & Pipefitting					x	x			x	
Advanced HVAC Plumbing & Pipefitters					x		x		x	
Basic Electrical for HVAC					x	x		x	x	x
Codes, Specifications & Contract Docs					x	x		x	x	x
Blueprint Reading			x		x	x	x	x	x	x
Blueprint Reading & Sketching			x		x	x	x		x	x
Intro Blueprint Reading for Welders			x		x				x	x
Air Conditioning Installation & Startup					x				x	
Technical Drafting					x		x		x	
Technical Illustration & Presentation					x		x		x	

SHEET METAL

	<i>Craning Principles</i>	<i>Geometric Tolerancing</i>	<i>Sheet Metal Fabrication II</i>	<i>Occupational Math</i>	<i>Advanced Project Management</i>	<i>Blueprint Reading for Specific Occupations</i>	<i>Technical Writing II</i>	<i>Workplace Safety</i>	<i>Introduction to Project Management</i>	<i>Shielded Metal Arc Welding</i>
	CNSE 1011,1311,1411	DFTG 2039	ABDR 2005	TECM 1013	BMGT 2030	DFTG 1023	ETWR 1043	OSHT 1003	BMGT 1021	WLDG 1003
Technical Writing I					X	X	X	X	X	
Technical Writing II					X	X	X	X	X	
Basic Construction Safety	X		X		X	X		X	X	X
Construction Site Safety & Health	X		X		X	X		X	X	X
Workplace Safety & Health	X		X		X	X		X	X	X
Leadership					X	X	X	X	X	
Construction Management I					X	X			X	
Construction Management II					X				X	
Construction Management III					X				X	
Intro to Project Management					X				X	
Introduction to Welding			X		X				X	X
Fundamentals to Arc Welding			X		X				X	X
Shielded Metal Arc Welding			X		X				X	X
Advanced Shielded Metal Arc Welding			X		X				X	
Advanced Gas Metal Arc Welding			X		X				X	
Advanced Gas Tungsten Arc Welding			X		X				X	
Fundamentals of Oxy-Fuel Welding & Cutting			X		X				X	
Fundamentals of Tungsten Arc Welding			X		X				X	
Intro to Welding using Multiple Processes			X		X				X	
Welding Safety Tools & Equipment			X		X			X	X	
Orbital Tube Welding			X		X				X	
Building Codes & Inspections			X		X				X	
Green Building					X				X	
OSHA Regulations Construction Industry	X		X		X	X		X	X	
Industrial Air Conditioning	X		X		X				X	
Craning Principles	X		X		X			X	X	

WELDING

	introduction to Welding	Fundamentals of Gas Metal Arc Welding (GMAW)	Shielded Metal Arc Welding (SMAW)	Fundamentals of Oxy-Fuel Welding & Cutting	Fundamentals of Tungsten Metal Arc Welding	Introduction to Welding Using Multiple Processes	Introduction to Flux Cored Arc Welding (FCAW)	Introduction to Blueprint Reading for Welders	Introduction to Layout & Fabrication	Welding Fundamentals	Welding Safety, Tools & Equipment	Introduction to Oxy-Fuel Welding & Cutting	Welding Codes & Standards	Introduction to Shielded Metal Arc Welding (SMAW)	Introduction to Gas Metal Arc Welding	Introduction to Gas Tungsten Arc Welding (GTAW)	Introduction to Pipe Welding	Introduction to Welding Metallurgy	Intermediate Layout & Fabrication	Intermediate Shielded Metal Arc Welding (SMAW)	
	WLDG 1000, 1200	WLDG 1002, 1202	WLDG 1003	WLDG 1004, 1204	WLDG 1006, 1206	WLDG 1007, 1307, 1407	WLDG 1012, 1312, 1412	WLDG 1013, 1313, 1413	WLDG 1017, 1317, 1417	WLDG 1021, 1421, 1521	WLDG 1023, 1323, 1423	WLDG 1025, 1425, 1525	WLDG 1027, 1327, 1427	WLDG 1028, 1428, 1528	WLDG 1030, 1430, 1530	WLDG 1034, 1434, 1534	WLDG 1035, 1435, 1535	WLDG 1037, 1337, 1437	WLDG 1053, 1353, 1453	WLDG 1057, 1457, 1557	
Skills																					
Introduction to Construction Math	x	x	x	x	x	x	x		x	x	x	x		x	x	x	x			x	
Introduction to Hand Tools	x	x	x		x				x	x			x						x	x	
Introduction to Power Tools	x			x		x	x		x	x	x	x		x			x				
Introduction to Blueprints	x	x	x	x	x	x	x		x	x	x	x		x			x				
Basic Rigging	x	x	x		x			x	x				x						x		
Welding Safety										x	x										
Oxyfuel Cutting	x	x	x	x	x	x	x		x	x	x	x		x	x	x	x			x	
Base Metal Preparation	x	x	x	x	x	x	x		x	x		x					x			x	
Weld Quality	x	x	x	x	x	x	x		x	x		x	x	x	x	x	x	x		x	
SMAW-Equipment & Setup	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x			x	
SMAW-Electrodes & Selection	x		x			x				x				x			x	x		x	
SMAW-Beads & Fillet Welds	x		x			x				x				x			x			x	
SMAW-Groove Welds with Backing	x		x			x				x				x						x	
Joint Fit-Up & Alignment			x			x				x				x						x	
SMAW-Open V-Groove Welds	x	x	x	x	x	x	x		x			x		x			x			x	
SMAW-Open-Root Pipe Welds			x			x								x						x	
Welding Symbols																	x				
Reading Welding Detail Drawings	x	x	x		x		x	x	x	x			x		x					x	x
Stainless Steel Groove Welds	x	x	x		x		x	x	x				x		x					x	x
Air Carbon Arc Cutting & Gouging					x											x					
Plasma Arc Cutting				x	x	x			x			x				x					
GMAW & FCAW-Equipment & Filler Metals						x			x												
GMAW & FCAW-Plate		x				x	x		x						x				x		
GTAW-Equipment & Filler Metals		x				x	x		x						x						
GTAW-Aluminum Plate					x	x										x			x		

WELDING

	Intermediate Pipe Welding	Intermediate Welding Using Multiple Processes	Advanced Blueprint Interpretation & Cost Analysis	Welding Automation	Advanced Layout & Fabrication	Advanced Oxy-Fuel Welding & Cutting	Advanced Shielded Metal Arc Welding (SMAW)	Advanced Gas Metal Arc Welding (GMAW)	Advanced Gas Tungsten Arc Welding (GTAW)	Advanced Flux Cored Arc Welding	Advanced Pipe Welding
	WLDG 2006, 2406, 2506	WLDG 2013, 2413, 2513	WLDG 2331, 2431	WLDG 2332, 2432	WLDG 2035, 2435, 2535	WLDG 2039, 2439, 2539	WLDG 2043, 2443, 2543	WLDG 2047, 2447, 2557	WLDG 2051, 2451, 2551	WLDG 2052, 2352, 2452	WLDG 2053, 2453, 2553
Skills											
Introduction to Construction Math	X	X				X	X	X	X	X	X
Introduction to Hand Tools			X		X	X					
Introduction to Power Tools						X					
Introduction to Blueprints						X					
Basic Rigging		X	X		X	X	X	X	X	X	X
Welding Safety	X	X				X	X	X	X	X	X
Oxyfuel Cutting	X	X		X	X	X	X	X	X	X	X
Base Metal Preparation	X	X				X					X
Weld Quality	X	X		X	X	X	X	X	X	X	X
SMAW-Equipment & Setup	X	X		X		X	X	X	X	X	X
SMAW-Electrodes & Selection	X	X			X		X				X
SMAW-Beads & Fillet Welds	X	X			X		X				X
SMAW-Groove Welds with Backing	X	X					X				X
Joint Fit-Up & Alignment	X	X					X				X
SMAW-Open V-Groove Welds	X	X				X	X				X
SMAW-Open-Root Pipe Welds	X	X					X				X
Welding Symbols	X										X
Reading Welding Detail Drawings	X	X	X		X	X	X	X			X
Stainless Steel Groove Welds	X	X	X		X	X	X	X			X
Air Carbon Arc Cutting & Gouging		X							X		
Plasma Arc Cutting		X				X				X	
GMAW & FCAW-Equipment & Filler Metals		X		X				X	X	X	
GMAW & FCAW-Plate		X			X			X		X	
GTAW-Equipment & Filler Metals		X						X		X	
GTAW-Aluminum Plate		X			X				X		

Concrete Workers

	<i>Basic Concrete Work (Archived)</i>	<i>Concrete 1 (archived)</i>	<i>Concrete Residential</i>	<i>Concrete I</i>	<i>Concrete II</i>	<i>Concrete - Commercial and Industrial</i>	<i>Field Engineering I</i>	<i>Residential & Light Commercial Blueprint Reading</i>	<i>Basic Construction Safety</i>	<i>Construction Methods & Materials (Archived)</i>	<i>Construction Technology 1</i>	<i>Commercial/Industrial Blueprint Reading</i>	<i>Construction Tools and Techniques</i>	<i>Introduction to Carpentry</i>
	MBST 1001	CNBT 1013	CNBT 1313	CNBT 1413	CNBT 1049, 1349	CNBT 1449	CNBT 1015, 1315, 1415	CNBT 1000, 1300, 1400	CNBT 1010, 1110, 1210	CNBT 1011, 1211, 1311, 1411	CNBT 1016, 1316, 1416, 1516	CNBT 2010, 2310, 2410	CNBT 1018, 1318, 1418	CRPT 1029, 1329, 1429
Skills														
Safety and Good Work Habits	X	X	X	X	X	X			X	X	X		X	X
Learning to Set Screeds and Layout Work		X	X	X	X	X	X			X	X	X		X
Learning Proper Mix and Consistency	X	X	X	X						X				X
Pouring and Tamping Concrete					X	X				X				
Using Vibrating Machine		X	X	X	X	X				X	X		X	
Rough Finishing, Hand or Machine; Floating	X	X	X	X	X	X							X	
Floating hand Troweling to Smooth Finish	X	X	X	X	X	X							X	
Patching, Hand Rubbing	X	X	X	X	X	X				X			X	
Marking and Edging					X	X						X	X	
Protecting Newly Poured and Laid Concrete from Weather, Rain, Sun, Wind		X	X	X	X	X				X				
Basic Safety	X	X	X	X	X	X	X		X	X	X		X	X
Introduction to Construction Math	X	X	X	X	X	X	X	X				X		X
Introduction to Hand Tools	X	X	X	X			X		X		X	X	X	X
Introduction to Power Tools	X	X	X	X					X		X		X	X
Introduction to Blueprints	X	X	X	X	X	X	X	X		X	X	X		X

Concrete Workers

	<i>Basic Concrete Work (Archived)</i>	<i>Concrete 1 (archived)</i>	<i>Concrete Residential</i>	<i>Concrete I</i>	<i>Concrete II</i>	<i>Concrete - Commercial and Industrial</i>	<i>Field Engineering I</i>	<i>Residential & Light Commercial Blueprint Reading</i>	<i>Basic Construction Safety</i>	<i>Construction Methods & Materials (Archived)</i>	<i>Construction Technology 1</i>	<i>Commercial/Industrial Blueprint Reading</i>	<i>Construction Tools and Techniques</i>	<i>Introduction to Carpentry</i>
	MBST 1001	CNBT 1013	CNBT 1313	CNBT 1413	CNBT 1049, 1349	CNBT 1449	CNBT 1015, 1315, 1415	CNBT 1000, 1300, 1400	CNBT 1010, 1110, 1210	CNBT 1011, 1211, 1311, 1411	CNBT 1016, 1316, 1416, 1516	CNBT 2010, 2310, 2410	CNBT 1018, 1318, 1418	CRPT 1029, 1329, 1429
Basic Rigging		X	X	X	X	X			X	X	X		X	X
Introduction to Concrete Construction and Finishing	X				X	X	X	X				X		X
Properties of Concrete	X									X				
Preparing for Placement		X	X	X	X	X			X	X	X			
Placing Concrete		X	X	X	X	X				X	X			
Finishing: Part 1		X	X	X	X	X		X						
Curing and Protecting Concrete					X	X								
Introduction to Troubleshooting	X	X	X	X			X							X
Properties of Concrete: Part Two					X	X								
Estimating Concrete Quantities							X				X	X		X
Forming		X	X	X	X	X				X	X	X		
Site Concrete			X	X	X	X		X		X	X	X		
Architectural Finishes	X	X	X	X	X	X		X		X		X		
Industrial Floors		X	X	X	X	X		X		X		X		
Super Flat Floors					X	X	X			X	X	X		
Surface Treatments	X							X		X	X	X		X
Quality Control	X	X	X	X	X	X	X	X		X	X	X		X
Making Repairs							X			X				X

Elevator Operators

	<i>Industrial Electronics</i>	<i>Introduction to Direct Current Circuits</i>	<i>Electric Motors</i>	<i>Electrical Work Safety Management for Safety Professionals</i>	<i>Industrial Equipment Maintenance</i>	<i>Industrial Equipment Maintenance</i>	<i>Basic Blueprint Reading</i>	<i>Basic Hydraulics</i>	<i>Basic Fluid Power I (Hydraulics)</i>	<i>Hydraulics Fabrication and Repair</i>	<i>Introduction to Shop Safety and Tools</i>	<i>Basic Electrical Systems</i>	<i>Basic Electrical Theory</i>	<i>Industrial Wiring</i>	<i>AC/DC Drives</i>	<i>Assembly and Rigging</i>	<i>Industrial Scaffolding and Rigging</i>	<i>Building Maintenance I</i>	<i>Mechanical Maintenance</i>	<i>Electrical Motors Operation and Maintenance</i>	
	ELMT 2033, 2233, 2433	IEIR 1x02	IEIR 1x06	IEIR 1040	IEIR 1x43	IEIR 1x14	DFTG 1x22	HYDR 1x05	HYDR 1x09	HYDR 1x50	DEMR 1x00	DEMR 1x05	ELPT 1x11	ELPT 1x57	ELPT 2x31	AERM 2x33	CBFM 1x21	CBFM 1x11	CBFM 2x17	ELTN 1046	
Skills																					
Elevator History and Basic Safety											x										
Basic Print Reading							x														
Handling Material and Tools											x										
Rigging and Hoisting																x	x				
Pit Equipment																					
Guide Rails																					
Machine Room Equipment																					
Hoistway Equipment																					
General Maintenance Procedures																		x			
Maintenance of Traction Elevators								x											x		
Maintenance of Hydraulic Elevators					x			x												x	
Maintenance of Escalators and Moving Walks								x												x	
Electrical				x								x	x								
Motor Control and Fault Finding																					x
Hydraulic and Installation									x												
Basic Electronics and Solid State	x																				
Machinery Troubleshooting/Repair	x									x											
Electrical Theory			x			x															
AC & DC Motors, Generators and Motor Control		x				x									x						
Elevator Related Circuits and Basic Circuit Analysis	x																				
Construction Wiring and Equipment														x							

Heavy Equipment Operators

	Heavy Equipment Operators	Tracks and Undercarriages	Natural Gas Compression	ST in Heavy Equipment Maintenance & Repair	Introduction to Shop Safety	Basic Driving Skills	Basic Electrical	Diesel Engine I	Diesel Engine Testing Repair	Fuel Systems	Power Train I	Heating, Ventilation, and Air Conditioning	Preventative Maintenance	Power Train Application I	Power Train II	Electronic Controls	Power Train Application	Special Topics in Diesel Engine Maintenance and Repair	Material Handling Equipment	Job Site Layout & Development	Forklift Operator Certification	Earth Moving Equipment Operation	Professional Truck Driver I	Professional Truck Driver II	Introduction to Welding Using Multiple Processes	Maintenance Welding	Welding Safety, Tools, and Equipment
	HEMR 1x01	HEMR 1x04	HEMR 1x91	DEMR 1x01	DEMR 1x03	DEMR 1405	DEMR 1x06	DEMR 1x10	DEMR 1x13	DEMR 1x21	DEMR 1x23	DEMR 1x29	DEMR 1x42	DEMR 1x47	DEMR 2332	DEMR 2445	DEMR 1x91	CNSE 1x10	CNSE 1x21	CNSE 1x03	CNSE 1x41	CVOP 1x13	CVOP 1x40	WLDG 1x07	WLDG 1x15	WLDG 1x23	
Skills																											
Construction Machinery (Bulldozers, Power Shovels, Graders, Scrapers, Pay Rollers)																				X							
Construction Machinery Equipment (Wenches, Arches Angle, Straight Dozer Blades, Cabs, Hydraulic System)		X							X			X	X		X					X							
Running Gear (Track Chains, Track Rollers, Front Idlers, Top Idlers, Pads, Wheels)																				X							
Power Train Assemblies (for Accessories)					X	X			X			X	X		X												
Gas and Diesel Engines			X		X	X	X	X																			
Troubleshooting			X		X	X	X	X	X			X	X		X												
Carburetor Repairing	X	X	X																								
Graders																					X						
Scarpers, self-propelled																					X						
Compaction Equipment																					X						
Tractor-Type Skip Loaders/Hi-Lifts																	X		X	X							
Wheel-Type Tractors, including Forklifts, Lumber Carriers, etc.																	X		X	X							
Grade Stakes																					X						
Trenching Machines																					X						

Ironworkers

	<i>Intermediate Arc Welding</i>	<i>Pipe Welding</i>	<i>ADVANCED SMAW</i>	<i>ADVANCED GMAW</i>	<i>ADVANCED FCAW</i>	<i>Commercial and Industrial Blueprint Reading</i>	<i>Commercial and Industrial Blueprint Reading</i>	<i>Commercial/Industrial Blueprint Reading</i>	<i>Architectural Blueprint Reading</i>	<i>Construction Tools and Techniques</i>	<i>Safety and Ergonomics</i>	<i>OSHA Regulations - Construction Industry</i>	<i>Construction Site Safety and Health</i>	<i>Material Handling</i>	<i>OSHA Regulations - General Industry</i>	<i>Structural Steel Detailing</i>
	WLDG 1057, 1457, 1557	WLDG 2053, 2453, 2553	WLDG 2043, 2443, 2543	WLDG 2047, 2447, 2557	WLDG 2052, 2352, 2452	CNBT 1206	CNBT 1007, 1207, 1307, 1407	CNBT 2010, 2310, 2410	DFTG 1015, 1215, 1315	CNBT 2018, 2318, 2418	ENTC 1047, 1347, 1447, 1547	OSHT 1005, 1305, 1405, 1505	OSHT 1007, 1207, 1307	OSHT 1016, 1316, 1416	OSHT 2001, 2401, 2501	ARCE 1015, 1315, 1415
Skills																
Ornamental	X		X	X		X	X	X	X	X	X	X	X	X		
Reinforcing	X		X			X	X	X	X	X	X	X	X	X		
Structural	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X
Welding	X	X	X	X	X	X	X	X	X	X	X	X	X			
Structural Steel	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X
Safety	X	X	X	X	X				X	X	X	X	X	X	X	
Blueprint Reading						X	X	X	X							X
Fabrication	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X
Rebar	X		X			X	X	X	X	X	X	X	X	X		
Post Tensioning						X	X	X	X	X	X	X	X	X		
Rigging										X	X	X	X			
Crane operating												X	X			
Scaffolding										X	X	X	X		X	
Forklift											X	X	X		X	