







Unit/Standard Number	 <p style="margin: 0;">pennsylvania DEPARTMENT OF EDUCATION</p> <p style="margin: 0;"><u>High School Graduation Years 2017, 2018 and 2019</u></p> <p style="margin: 0;">Building/Property Maintenance CIP 46.0401 Task Grid</p>	<p>Proficiency Level Achieved: (X) Indicates Competency Achieved to Industry Proficiency Level</p>
	Secondary Competency Task List	
	100 DEMONSTRATE SAFETY IN THE BUILDING AND PROPERTY MAINTENANCE PROGRAM	
101	Demonstrate knowledge of general shop safety.	
102	Wear appropriate personal protective clothing.	
103	Wear eye protection, hearing protection, and respiratory protection each time it is required in the lab.	
104	Demonstrate knowledge of the Occupational Safety and Health Act (OSHA) and state its purposes.	
105	Demonstrate how to lift and carry heavy objects safely.	
106	Demonstrate knowledge of Safety Data Sheets (SDS) and their location in the shop/classroom.	
107	Demonstrate knowledge of general ladder safety.	
	200 DEMONSTRATE KNOWLEDGE OF THE BUILDING AND PROPERTY MAINTENANCE TRAINING LAB	
201	Demonstrate knowledge of BPM lab rules for behavior.	
202	Arrive to class on time; prepared to work.	
203	Follow safety rules for tools, machines and processes.	
204	Complete all theory assignments and homework on time.	
205	Identify BPM lab tools and equipment.	
206	Keep daily time cards and project logs.	
207	Record daily units/hour records.	
208	Describe work ethics.	
209	Demonstrate problem-solving skills in completing shop projects.	
210	Demonstrate efficient methods of storing materials and supplies.	
211	Accurately demonstrate the ability to use measuring devices.	
212	Demonstrate how to estimate quantities of materials needed for a job.	
213	Identify student organizations if they exist in the school.	
	300 PERFORM BASIC CARPENTRY AND REPAIR TASKS	
301	Identify common building materials.	
302	Read and interpret building plans.	
303	Prepare a bill of material.	
304	Layout stock.	


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305	Layout angles.	
306	Find the center line of stock.	
307	Use a sliding T-bevel to transfer an angle.	
308	Transfer a cut line using a marking gauge.	
309	Test a level for accuracy in the vertical and horizontal positions.	
310	Test a horizontal surface using a level.	
311	Test a vertical surface using a level.	
312	Snap a chalk line.	
313	Cut a miter using a miter saw.	
314	Bore a hole with an auger bit.	
315	Bore holes with a portable electric drill.	
316	Identify and select various nails for a specific job.	
317	Drive and remove nails using a claw hammer.	
318	Set finish nails with a nail set.	
319	Pull nails with a wrecking bar.	
320	Assemble miter joints by nailing.	
321	Select and drive screw-type fasteners by hand.	
322	Identify fasteners for various uses.	
323	Identify anchors for masonry repair jobs.	
324	RESERVED	
325	Drive/remove screws with a portable electric drill.	
326	Cut a gain for butt hinges and install butt hinges.	
400	OPERATE PORTABLE POWER TOOLS	
401	State and follow all safety rules and precautions for using portable power tools.	
402	Operate portable electric and battery operated drills.	
403	Operate a metal cutting (abrasive disc) chop saw.	
404	Operate a portable jigsaw and reciprocating saw.	
405	Operate a router.	
406	Operate disc grinders	
500	OPERATE A TABLE SAW	
501	State and follow all safety rules and precautions for using a table saw.	


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502	Rip stock on a table saw.	
503	Crosscut stock on a table saw with a miter gauge.	
600	OPERATE A DRILL PRESS	
601	State and follow all safety rules and precautions for using a drill press.	
602	Drill holes in metal using a drill press.	
603	Drill holes in non-metallic materials using a drill press.	
604	Sand curves and radii on a drill press.	
700	OPERATE A COMPOUND MITER SAW	
701	State and follow all safety rules and precautions for using a compound miter saw.	
702	Cut stock to length on a miter saw.	
703	Cut angles on a miter saw.	
704	Cut compound angles on a miter saw.	
800	OPERATE A BENCH GRINDER	
801	State and follow all safety rules and precautions for using a bench grinder.	
802	Sharpen cutting tools on a bench grinder.	
803	De-burr stock on a bench grinder.	
900	PERFORM REGULAR TOOL AND MACHINE MAINTENANCE	
901	Identify broken tools and replace or repair immediately.	
902	Examine power tool and extension cords for damage; replace or repair.	
903	Lubricate moving parts of power tools as recommended by the manufacturer.	
904	Replace saw blades and other cutting tool accessories when they become dull.	
905	Sharpen edge cutting tools.	
906	Remove dust from power tool stators and rotors with vacuum equipment.	
907	Remove paint, oils, water, and lubricants from tool handles, and power tool housings and chassis.	
1000	BUILD AND REPAIR FLOORS	
1001	Identify floor members.	
1002	Install joist hangers.	
1003	Install or replace bridging between joists.	
1004	Repair (remove or replace) plywood sub-flooring on joists.	

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1100	BUILD AND REPAIR ROOFS	
1101	Identify roof members.	
1102	Identify roof types.	
1103	Repair roof sheathing.	
1104	Install and replace asphalt shingles.	
1105	Remove and replace a damaged shingle.	
1106	Demonstrate proper application of sealing compounds and caulking.	
1107	Describe/demonstrate the knowledge of the repair of a flat rubber type roof.	
1200	BUILD AND REPAIR STAIRS AND STAIRCASES	
1201	Repair damage to stair stringers and carriages.	
1202	Repair stair risers and treads.	
1203	Install or repair a stair railing.	
1204	Describe the installation and layout of stairs stringer/horse	
1205	RESERVED	
1300	INSTALL AND REPAIR DOORS AND WINDOWS	
1301	Install a new exterior lock set.	
1302	Hang an interior door.	
1303	Cut and install moulding.	
1304	Trim a door jamb and/or a window unit.	
1305	Trim a window, stool, apron, casing, and extension jambs.	
1400	APPLY AND REPAIR INTERIOR WALLS	
1401	Cut drywall with a utility knife.	
1402	Install drywall board.	
1403	Install metal corners prior to finishing drywall.	
1404	Tape and smooth drywall.	
1405	Cope an inside corner.	
1406	Miter an outside corner.	
1407	Install rubber baseboard trim.	
1408	Repair suspended ceiling grids and tiles.	
1500	BUILD AND REPAIR EXTERIOR WALLS	
1501	Identify, repair or replace siding components.	

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1502	Identify, repair and clean gutter spouting components.	
1600	DEMONSTRATE MASONRY SKILLS	
1601	Practice safety while performing masonry work.	
1602	Identify common masonry tools.	
1603	Identify masonry supplies.	
1604	Identify safety hazards to masonry workers.	
1605	Mix mortar for block work.	
1606	Identify and describe uses of block types.	
1607	Cut block and brick with a masonry hammer.	
1608	Check work for plumb.	
1609	Check work for level.	
1610	Check work for straightness.	
1611	Strike off a block wall.	
1612	Clean mortar from block and brick work.	
1613	Mix mortar for brick work.	
1614	Identify standard brick bonds.	
1615	Identify and describe types of brick and their uses.	
1616	Cut brick and block with a brickset.	
1700	PLACE CONCRETE	
1701	Build forms for a concrete slab.	
1702	Mix concrete to a 1-2-3 proportion.	
1703	Cast a concrete slab.	
1704	Float concrete.	
1705	Finish concrete.	
1706	Patch steps and walkways.	
1707	Re-set masonry anchors.	
1800	INSTALL AND REPAIR FLOOR AND WALL TILE	
1801	Estimate the quantity of tile needed for a repair.	
1802	Discuss tile terminology and applications.	
1803	Identify adhesives and mortars.	
1804	List, identify and explain tile tools and equipment.	
1805	List and explain various methods of installing tile.	

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1900	REPAIR RESIDENTIAL ELECTRICAL CIRCUITS	
1901	Apply the National Electric Code (NEC) to common installations.	
1902	Practice electrical safety.	
1903	Identify and use electrical tools.	
1904	Read and interpret electrical drawings.	
1905	Identify electrical symbols.	
1906	Understand and apply electrical theory.	
1907	Identify wire sizes & ampacities.	
1908	Identify wire types.	
1909	Use connectors/wire nuts to connect or splice wire.	
1910	Discuss proper disposal of fluorescent bulbs.	
1911	Change fluorescent bulbs.	
1912	Replace extension cord ends - male/female.	
1913	Reset an electric circuit breaker.	
1914	Install a ground fault circuit interrupting outlet.	
1915	Rough in a circuit.	
1916	Install a junction box.	
1917	Install adjustable bar hanger.	
1918	Install a light fixture.	
1919	Install a duplex receptacle.	
1920	Install a single pole switch.	
1921	Install a split wire duplex receptacle.	
1922	Install a 220-volt circuit.	
1923	Install a recessed light.	
1924	Install outlet boxes.	
1925	Bore holes for wire run.	
1926	Install Romex to boxes.	
1927	Staple Romex (non-metallic cable) according to code.	
1928	Install a three-way switch.	
1929	Install a four-way switch.	
1930	Install armored cable to boxes.	
1931	Install conduit to boxes.	
1932	Fish wire through conduit.	
1933	Install rework boxes.	

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1934	Check and replace a 24-volt transformer.	
1935	Install circuit breakers.	
1936	Install a GFCI circuit breaker.	
1937	Demonstrate proper grounding techniques.	
1938	Replace a faulty circuit breaker.	
1939	Install low-voltage wiring.	
1940	Install coaxial cable for television reception.	
1941	Install cabling for computer work stations.	
1942	Replace or install a ceiling fan.	
2000	REPAIR RESIDENTIAL PLUMBING SYSTEMS	
2001	Demonstrate knowledge of basic code regulations for water supply systems.	
2002	Demonstrate knowledge of basic plumbing code regulations for waste system.	
2003	Identify plumbing symbols.	
2004	Interpret plumbing drawings.	
2005	Identify types of pipes (including PEX pipe).	
2006	Identify plumbing pipe fittings.	
2007	Measure and cut steel pipe.	
2008	Thread steel pipe.	
2009	Install a supply line with steel pipe and fittings.	
2010	Sweat solder copper pipe and fittings using propane, MAPP, or Prestolite gas.	
2011	Install and replace copper pipe and fittings.	
2012	Solvent weld PVC (polyvinyl chloride) plastic pipe.	
2013	Install and repair PVC plastic pipe and fittings.	
2014	Repair waste water drains.	
2015	Install replace, and repair commodes.	
2016	Install lavatories and sinks.	
2017	Hook up water supply lines and waste water lines to a bathtub.	
2018	Install or replace a garbage disposal unit.	
2019	Clean and/or replace waste water traps and pipes.	
2020	Replace and repair a faucet set.	
2021	Identify and replace valves.	
2100	APPLY FINISHING MATERIALS	
2101	Demonstrate methods for protecting furniture, materials and surrounding surfaces from overspray and paint spatter.	

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2102	Demonstrate procedures for taping door and window trim to protect them from finishing materials being applied.	
2103	Demonstrate how to prepare a surface prior to applying a finish.	
2104	Stain wood surfaces with wiping oil stains.	
2105	Apply a finish material with a brush and a roller.	
2106	RESERVED	
2107	Apply oil base paints.	
2108	Apply acrylic based paints.	
2109	RESERVED	
2110	Demonstrate proper procedures for cleaning paint brushes and rollers.	
2200	DEMONSTRATE SKILL IN MECHANICS	
2201	Identify safety hazards common to machines.	
2202	Practice safety while working on/with machines.	
2203	Clean mechanical devices.	
2204	Lubricate machines.	
2205	Make machine adjustments for jobs.	
2206	RESERVED	
2207	Define and discuss friction and lubrication.	
2208	Perform periodic maintenance.	
2209	Troubleshoot machine problems.	
2210	Repair/replace faulty parts.	
2300	DEMONSTRATE SAFE USE OF A PORTABLE CIRCULAR SAW	
2301	State and follow all safety rules and precautions for using a portable circular saw.	
2302	Rip stock with a portable circular saw.	
2303	Cut wood stock across its grain using a portable circular saw.	
2304	Cut miters with a portable circular saw.	
2400	SERVICE ENVIRONMENTAL CONTROL SYSTEMS	
2401	Identify the scales on a thermometer.	
2402	RESERVED	
2403	Define BTU (British Thermal Unit).	
2404	Describe types of heat transfer.	
2405	Identify the components of a gas fuel heating system.	
2406	Identify the components of an oil fuel heating system.	