

# Intro to Manufacturing Task List

Task Number	Description	Hours	Level
<i>*Local Task List</i>			
VA100	ORIENTATION AND SAFETY		
VA101	Identify school rules and lab policies.		
VA102	Identify safe work habits.		
VA200	HAND TOOLS		
VA201	Use and identify common hand tools		
VA300	POWER TOOLS		
VA301	Operate hand held power tools.		
VA302	Operate electric drill.		
VA303	Demonstrate safe operation of hand-held grinder		
VA400	BAND SAW		
VA401	Operation identification and safety of the Bandsaw.		
VA500	DRILL PRESS		
VA501	Calculate & set drill speed using reference charts.		
VA502	Drill holes to blueprint specifications.		
VA600	PRECISION MACHINING		
VA601	Demonstrate proper use of a micrometer		
VA602	Demonstrate proper use of a caliper		
VA603	Demonstrate proper use of an indicator		
VA604	Identify safe operation and parts of a lathe		
VA605	Face and turn a shoulder on a lathe		
VA606	Identify safe operations and parts of a milling machine		
VA607	Drill holes to X-Y coordinates on a milling machine		
VA608	Mill a slot or keyway		
VA609	Apply CNC safety procedures		
VA610	Use G and M codes.		
VA611	Use of Cartesian coordinate systems		
VA612	Prove a CNC program		
VA613	Set part zero and tool offsets		
VA614	Transfer data files to and from a CNC machine		
VA615	Use CNC control functions		
VA700	PEDESTAL GRINDER		
VA701	Demonstrate safe operation of a pedestal grinder		
VA702	Dress & true grinding wheel		
VA800	INDUSTRIAL ELECTRICITY		
VA801	Identify basic electrical theory.		
VA802	Demonstrate electrical safety.		

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VA803	Identify symbols and circuits.		
VA804	Identify meter symbols and terminology.		
VA805	Measure voltage with multimeter.		
VA806	Measure continuity with multimeter.		
VA807	Measure resistance with multimeter.		
VA808	Measure amperage with multimeter.		
VA900	METAL FABRICATION		
VA901	Operate bar folder		
VA902	Operate cornice brake		
VA903	Operate box and pan brake		
VA904	Operate slip forming rolls		
VA908	Operate Pittsburgh Lock Machine		
VA909	Operate power squaring shear		
VA910	Operate soldering tools		
VA1000	PRINCIPLES OF BLUEPRINT READING AND LAYOUT		
VA1001	Basic welding print reading		
VA1002	Basic electrical print reading		
VA1003	Basic metal fabrication print reading		
VA1004	Basic machining print reading		
VA1100	SHIELDED METAL ARC WELDING (SMAW)		
VA1101	Start and restart an arc, flat position on a mild steel plate.		
VA1102	Produce a pad weld, flat, with E6011 electrode.		
VA1103	Produce a pad weld, flat, with E7018 electrode.		
VA1104	Produce a multipass fillet weld T-joint, horizontal position with E6011 electrodes.		
VA1105	Produce a multipass fillet weld T-joint, horizontal position with E7018 electrodes.		
VA1106	Produce a multipass V-groove weld butt joint, flat position with E6011 electrodes.		
VA1107	Weld a multipass V-groove weld butt joint, flat position with E7018 electrodes.		
VA1200	GAS METAL ARC WELDING (GMAW)		
VA1201	Assemble all equipment accessories for a GMAW station.		
VA1202	Build a pad weld, flat position, using stringer beads.		
VA1203	Produce a multipass fillet weld T-joint, horizontal position.		
VA1204	Produce a multipass fillet weld T-joint, vertical position.		
VA1205	Produce a multipass filled weld T-joint, overhead position.		
VA1206	Produce a single pass lap joint, flat position.		
VA1207	Produce a single pass lap joint, vertical position.		
VA1208	Produce a single pass lap joint, overhead position.		
VA1209	Produce a single pass square groove butt joint, flat position.		
VA1210	Produce a single pass square groove butt joint, vertical position.		
VA1211	Produce a single pass square groove butt joint, horizontal position.		

<b>Task Number</b>	<b>Description</b>	<b>Hours</b>	<b>Level</b>
VA1300	GAS TUNGSTEN ARC WELDING (GTAW)		
VA1301	Assemble all equipment accessories for a GTAW station for a mild steel welding.		
VA1302	Strike and maintain an arc to produce a stringer bead, flat position on mild steel.		
VA1303	Produce an outside corner joint fillet weld, flat position, on mild steel.		
VA1304	Produce a lap joint fillet weld, horizontal position, on mild steel.		
VA1305	Produce a single pass square groove butt joint, flat position, on mild steel.		
VA1306	Assemble all equipment accessories for a GTAW station for aluminum welding.		
VA1307	Strike and maintain an arc to produce a stringer bead flat position on aluminum		
VA1308	Produce a lap joint fillet weld, horizontal position, on aluminum.		
VA1309	Produce a single pass square grove fillet weld, flat position, on aluminum.		
VA1400	PLASMA ARC		
VA1401	Identify parts of plasma arc cutting machine		
VA1402	Demonstrate safe operation of plasma arc cutting machine		
VA1500	MANUAL OXYFUEL GAS CUTTING (OFC)		
VA1501	Assemble an OFC outfit, light and adjust the flame, and shut down the outfit.		
VA1502	Produce a 90 degree straight cut on mild steel plate.		
VA1503	Produce a bevel cut, 30 degrees, on mild steel plate.		
VA1504	Produce a circular hole cut on a mild steel plate.		
VA1505	Layout a pattern on mild steel and cut to specifications.		
VA1600	FLUX CORE ARC WELDING (FCAW)		
VA1601	Assemble all equipment to set up a FCAW station.		
VA1602	Produce a CS T-joint F1 position.		
VA1603	Produce a CS T-joint F2 position.		
VA1604	Produce a CS T-joint F3 position.		
VA1605	Produce a CS Butt-joint G1 position.		
VA1606	Produce a CS Butt-joint G3 position.		