Multi-State Advanced Manufacturing Consortium

US DOL SPONSORED TAACCCT GRANT: TC23767

MSAMC Master Performance Based Objectives (PBO) Review Template

Instructions

The following tab lists PBOs for the topic area ***FANUC R30iA*** . Please review each of the PBOs, and rate each PBO with one of the following ratings:

1 = Skill or understanding is required for employees.
2 = Skill is useful, but is not crucial for employees.
3 = Skill is not useful for employees, or isn't relevant for typical work assignments.
0 = PBO is unclear.

Additionally, for each PBO, note any comments or recommendations that you may have about how to improve the PBO. If any PBOs or skill sets seem to be missing from the list, please add them in the space at the bottom of the list.

Please enter your information below	
Name:	
Company/Plant:	
Department/Division:	
Industry/Segment:	
Email:	
Phone:	

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FANUC R30iA

M-S AMC Industry Partner PBO Review

Please review the following PBOs to identify the appropriate skill set for a given job title / category / classification (see row 10 below).

* In the "**Importance**" column, identify how important each PBO is for someone in the relevant position. For each PBO, type 1 if the PBO must be covered in the coursework, enter 2 if the PBO is helpful but not necessary and would not impair the performance of the employee in the workplace if missed, and enter 3 if the PBO would not benefit the student or doesn't apply to the typical work assignments. If you don't understand the PBO, enter 0.

* Note any comments or feedback for improving each PBO (in the "Comments" column).

Note: It is the intention of competency based instruction to have each student individually demonstrate their proficiency of the skills indicated.

Reviewing PBOs fc ***TYPE JOB TITLE HERE*** (from whose perspective are you rating PBO importance?)

Sub-Topic	Level	Topic	PBO ID	Performance Based Objective (PBO)	Importance 1 = Need 2 = nice to have 3 = N/A 0= Don't understand	Comments *Notes to improve the PBO, PBO is unclear, etc.*
	1	F	1	Locate & identify all components of the robotic cell including all equipment, operator interfaces, tooling, perimeter guarding, safety devices, etc. (Walk through with the Instructor-- AMTEC Trainer)(Could be written with Pictures)	*Enter 1, 2, 3, or 0 here*	
	1	F	2	Locate & identify the main components of the robotincluding the controller, manipulator arm, teach pendant, standard operator panel, dress-out, cables, connections, and end-of-arm-tooling or vacuum components. (Walk through with the Instructor—Amtec trainer) (could be written with Pictures)		
	1	F	3	Identify & practice all safety considerations related to operating the robotic cell. (Instructor demonstration with Student's full participation – AMTEC trainer)		
	1	F	4	Identify the proper names for the axis for both Joint and Cartesian coordinate systems as applicable to the robot. (Written)		
	1	F	5	Demonstrate the proper power-up and shut-down sequence of the robotic cell.		
	1	F	6	Perform the Cold Start procedure and describe the benefit. (Book procedure exercise)		
	1	F	7	Use the teach pendant to identify & clear alarms that would inhibit robotic cell operation. View alarm history. (Book procedure exercise)		
	1	F	8	Reset and clear teach pendant errors. (Book procedure exercise)		
	1	F	33	Predict the movement of the robot when operating in the following coordinate system: Joint, World, Tool, User		
	1	F	10	Match each teach pendant button to their proper name & function. (Hands-on with written exercise and book reference)		
	1	F	11	Navigate & match teach pendant screens to their proper name & function. (Hands-on with written exercise and book reference)		
	1	F	12	Jog the robot in each coordinate system and document the arm motion. (Hands-on with written exercise and book reference)		
	1	F	34	Repeatably demonstrate the ability to teach a robot out of a fixture with zero moves in the wrong direction.		
	1	F	13	Adjust the robot jog speed. (Hands-on exercise with book reference)		
	1	F	14	Set-up and test software axis limits. (Hands-on exercise with book reference)		

	1	F	15	Master the robot using zero degree mastering and single axis mastering procedures. (Hands-on exercise with book reference)		
	1	F	16	Set-up & test a specific tool center point (TCP). (Hands-on exercise with book reference)		
	1	F	17	Demonstrate Tool frame set-up procedure. (Hands-on exercise with book reference)		
	1	F	18	Perform the User frame (RTCP) set-up procedure. (Hands-on exercise with book reference)		
	1	F	19	Perform the Jog frame set-up procedure. (Hands-on exercise with book reference)		
	1	F	20	Set-up collision guard sensitivity. (Hands-on exercise with book reference)		
	1	F	36	Demonstrate how to view the position registers and how to "move to" and " record" a new position.		
	1	F	21	Edit the physical location of selected points in a given robot program		
	1	F	22	Create, edit, & test run material handling programs in T1 & T2 .(Hands-on exercise with book reference)		
	1	F	23	Adjust the program speed beforetesting programs. (Book reference)		
	1	F	35	Demonstrate how to monito I/O and to toggle I/O.		
	1	F	24	Create and use MACRO programs. (Hands-on exercise with book reference)		
	1	F	25	Perform the brake release procedure. (Lab exercise)		
	1	F	26	Demonstrate how to recover from alarms during production. (Lab exercise)		
	1	F	27	Monitor specific Data register & I/O status. (Hands-on exercise with book reference)		
	1	F	28	Manually operate (using the teach pendant) the gripper clamps to open & close or vacuum. (Lab exercise)		
	1	F	29	Manipulate (simulate) I/O through the Teach Pendant. (Hands-on exercise with book reference)		
	1	F	30	Back-up & restore robot program files using a flash drive. (Hands-on exercise with book reference)		
	1	F	31	Review plant robot application programs and identify specific I/O assignments used. (Classroom written exercise with robot programs from plant)		
	1	F	32	Review plant robot interface drawings to identify I/O interface between robot, host controller, end-of-arm-tooling, peripheral devices, etc. (written exercise with robotinterface drawings from plant)		

Additions: Please add any additional objectives that we may have overlooked.

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