
# 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 *Integrated Systems* . Please review each of the PBOs, and rate each PBO with one of the following ratings:**

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

**Additionally, for each PBO please**

* Note any comments or recommendations that you may have about how to improve the PBO.
* Indicate whether each PBO is covered in your college's aligned courses, and how (written, lab demo, exercise).

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: | |
| Institution: | |
| Date: | |
| Email: | |
| Phone: | |

# Integrated Systems

*M-S AMC Academic Partner PBO Review*

| Please enter your information below | |
|---|---|
| Name: | |
| Institution: | |
| Date: | |
| Email: | |
| Phone: | |

| Please indicate which course or courses delivered at your institution align with, or cover, the listed objectiv | | |
|---|---|---|
| Aligned Course(s) | 1 | *Enter course code here* |
| | 2 | *Enter course code here* |
| | 3 | *Enter course code here* |

*** Note**: For each covered PBO, indicate in which of the aligned courses, documented at left, the PBO would be most extensively covered. If there is only one course listed to the left, then you do not have to complete the "Aligned Course" column.

| Sub-Topic | Level | Topic | PBO ID | Performance Based Objective (PBO) | Importance, 1 = Need 2 = Nice to have 3 = N/A 0 = Don't understand | Covered - Written Assignment / Reading? Y/N | Covered - Exercise or Assessment? Y/N | Aligned Course * | Comments *Notes to improve the PBO, PBO is unclear, lacking equipment to cover, etc.* |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | ISYS | 1 | Identify, by physical examination, the sequence of operations of each station of the integrated system. | | | | | |
| | 1 | ISYS | 2 | Identify the type of technology associated with each action on the integrated systems trainer. (e.g. electrical, pneumatic, etc.) | | | | | |
| | 1 | ISYS | 3 | Identify each output associated with every step in the sequence of operation on each station on the integrated systems trainer. | | | | | |
| | 1 | ISYS | 4 | Generate a list of most probable triggering elements associated with each step in the sequence on each station on the integrated systems trainer. | | | | | |
| | 1 | ISYS | 14 | Given a selected part on the drawings (prints), locate the part on the integrated system. | | | | | |
| | 1 | ISYS | 15 | Given a part on the integrated system, locate the part on the drawings (prints). | | | | | |
| | 1 | ISYS | 5 | Compare the PLC inputs and outputs associated with each real world input and output with the working drawings of the integrated systems trainer. | | | | | |
| | 1 | ISYS | 6 | Generate a Sequence diagram of each station on the trainer reflecting: The step, timing, output actuating, and most probable triggers causing the action. | | | | | |
| | 1 | ISYS | 7 | Given the Status of an operator's complaint, all I/O indicators (including blown fuse indicators) and the processor logic, identify a faulted part. Given a copy of the logic as it would appear on a programming terminal, and a drawing depicting the physical layout of the machine with all indicators reflecting the state of the machine and processor status indications. | | | | | |
| | 1 | ISYS | 8 | Given the Status of an operator's complaint, all I/O Indicators and a sequence Diagram with outputs and triggers identified, Identify the most likely faulted Item(s). Given a drawing depicting the physical layout of the machine with all indicators reflecting the state of the machine and processor status indications. | | | | | |
| | 1 | ISYS | 9 | Isolate a fault on the integrated system trainer as to the input that is expected/output that is expected for the paused sequence of operation. | | | | | |
| | 1 | ISYS | 10 | Use the internet to supplement their understanding with unfamiliar technology as it relates to components on the integrated system trainer. | | | | | |
| | 1 | ISYS | 11 | Generate a flow chart (or List of actions) that reflect the troubleshooting logic used on sequencing machines. | | | | | |
| | 1 | ISYS | 12 | List the part flow and process flow of the integrated systems trainer. | | | | | |

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|---|---|---|---|---|---|---|---|---|---|
| | 1 | ISYS | 13 | Match the following LANS with an example of their function:<br>- Robot and Tooling LAN – Local I/O and Remote I/O (includes names of DeviceNet and ProfiBus)<br>- PLC to PLC LAN<br>- Program Back-up–and- Data Collection LAN<br>- F.I.S. LAN (Factory Information Systems)<br>- Work Scheduling LAN (includes Just in time, etc.) | | | | | |
| | 1 | ISYS | 16 | Generate a flow chart of a standardized procedure for troubleshooting sequencing machines. | | | | | |

| **Additions: Please add any additional objectives that we may have overlooked.** |
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**RELEVANCY REMINDER:**

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