MS Industrial Management
Program Assessment
for 2025-2026
Department of Technology

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Presentation Overview

- ✓ Overview of Program and Updating Program Learning Outcomes (PLOs)
- ✓ Assessment methods used across courses and comprehensive exams
- ✓ Key findings from assessment data
- ✓ Actions taken for continuous improvement

M.S. in Industrial Management

with courses in Technology and Management

Prepares students for careers in industry, manufacturing, and business

-with skills involving planning, problem-solving, and decision-making.

Admission to the Program

Open to both STEM and non-STEM majors, with non-STEM majors able to start their journey with a few prerequisites

We refined Program Learning Outcomes (PLOs) with Faculty and Advisory Board Input

- We developed an Advisory Board of five for the program (for the very first time)

  -- One Educator out of State from a similar MSIM program

  -- Four Industrial Representatives

- With the input of the Faculty and the Advisory Board (AB) we refined our PLOs

Updating PLOs

Old PLOs

- Plan and manage manufacturing and industrial operations, and apply technology principles to these processes.
- Demonstrate knowledge of accounting, engineering economy, financial management, industrial and human resources, and management.
- Conduct analysis and interpret data to inform decision-making in project management.
- Use technology to effectively oversee the products, processes, and people in a chosen technology-rich field.

New PLOs

- **PLO 1:** Analyze and improve **industrial systems** and operations
- **PLO 2: Lead and manage personnel** in industrial organizations
- **PLO 3:** Collaboratively **design, implement**, and critique **c**omprehensive **project** plans that integrate to drive equitable organizational decision-making
- **PLO 4: Evaluate emerging** and existing **technologies** using appropriate analytical frameworks and develop strategic **implementation plans** for professional environments.
- **PLO 5:** Design and execute **applied research to address complex industry challenges**, translating findings into accessible, culturally responsive formats for diverse audiences

Curriculum Map Matrix (Co-Courses)

Program Learning Outcomes	ETEC 4600 Adv. Manuf.	TECH 5100 Tech Forecasting	MGMT 5106 Employee Motivation	MGMT 5501 Project Management	TECH 5520 Six Sigma for Industry	TECH 5900 Research Develop. for Tech Leadership	TECH 5960, 5990 Comp Exam, or Thesis
PLO 1: Improve industrial systems and operations	I				D		M
PLO 2: Manage personnel in industrial organizations			D		I		M
PLO 3: Design, implement, and critique comprehensive project plans				D		I	M
PLO 4: Evaluate emerging and existing technologies		D					M
PLO 5: Design and execute applied research to address complex industry challenges						D	M

I = Initiate D = Develop M = Master

PLOs and Performance Indicators (PIs)

Program Learning Outcomes	Performance Indicators
PLO 1: Analyze & improve industrial systems/operations Assessed in ETEC 4600 – Adv. Manufac. and TECH 5520 Six Sigma for Industries	**PI 1.1 -** Analyzes industrial systems using appropriate analytical or improvement tools **PI 1.2 -** Proposes and justifies measurable improvements to system performance
PLO 2: Lead and manage personnel in industrial organizations Assessed in MGMT 5106 Employee Motivation and Work Behavior and TECH 5520 Six Sigma for Industries	**PI 2.1 -** Applies management and organizational behavior principles to workplace scenarios **PI 2.2 -** Develops leadership strategies to improve team performance
PLO 3: Collaboratively design, implement, and critique comprehensive project plans to drive equitable organizational decision-making Not assessed in 2025- 2026	**PI 3.1 -** Develops structured project plans, including scope, schedule, and risk **PI 3.2 -** Uses quantitative and qualitative information to evaluate project decisions

Program Learning Outcomes	Performance Indicators
PLO 4: Evaluate emerging and PLO 4: Evaluate emerging and existing technologies using appropriate analytical frameworks and develop strategic implementation for professional environments. **Assessed in TECH 5100 Tech Forecasting & Assessment**	**PI 4.1 - Evaluates emerging or existing technologies for organizational use** **PI 4.2 - Develops implementation strategies based on strategic analysis**
PLO 5: Design and execute applied research to address complex industry challenges, translating findings into accessible, culturally responsive formats for diverse audiences Assessed in TECH 5900 Research Development for Tech Leadership	**PI 5.1 -** Designs and conducts applied research relevant to industrial management **PI 5.2 -** Communicates research findings clearly in written and oral formats

Assessment Rubrics – Sample for PLO2

(score of 3 satisfactory or competent)

PLO 2	**Lead and manage personnel in industrial organizations**					
	Performance Indicator	**Score (1-4)**				**Where measured**
		4 – Advanced	**3 – Competent**	**2 – Developing**	**1 – Beginning**	
	PI 2.1 - Applies management and organizational behavior principles to workplace scenarios	Exceeds graduate expectations; integrated, strategic, and well-justified application.	Meets graduate expectations; appropriate and accurate application.	Partial competence; limited depth, clarity, or consistency.	Below graduate expectations; major gaps, inaccuracies, or unsupported conclusions.	MGMT 5106
	PI 2.2 - Develops leadership strategies to improve team performance	Exceeds graduate expectations; integrated, strategic, and well-justified application.	Meets graduate expectations; appropriate and accurate application.	Partial competence; limited depth, clarity, or consistency.	Below graduate expectations; major gaps, inaccuracies, or unsupported conclusions.	MGMT 5106

PLO 1: INDUSTRIAL SYSTEMS ANALYSIS (COURSE WORK)

ETEC 4600 – Advanced Manufacturing Processes

Table 1: *Fall 2025 Assessment results based on* ***course instructor input***

Assessment Cycle	Performance Indicators	Assessment Results (% of students above satisfactory or exceeding standards) ETEC 4600 (3 students)	Evaluation Summary (Target – 70%)
Academic Year	**PI 1.1 -** Analyzes industrial systems using appropriate analytical or improvement tools	100%	**Above Target**
2025- 2026	**PI 1.2 -** Proposes and justifies measurable improvements to system performance	100%	**Above Target**

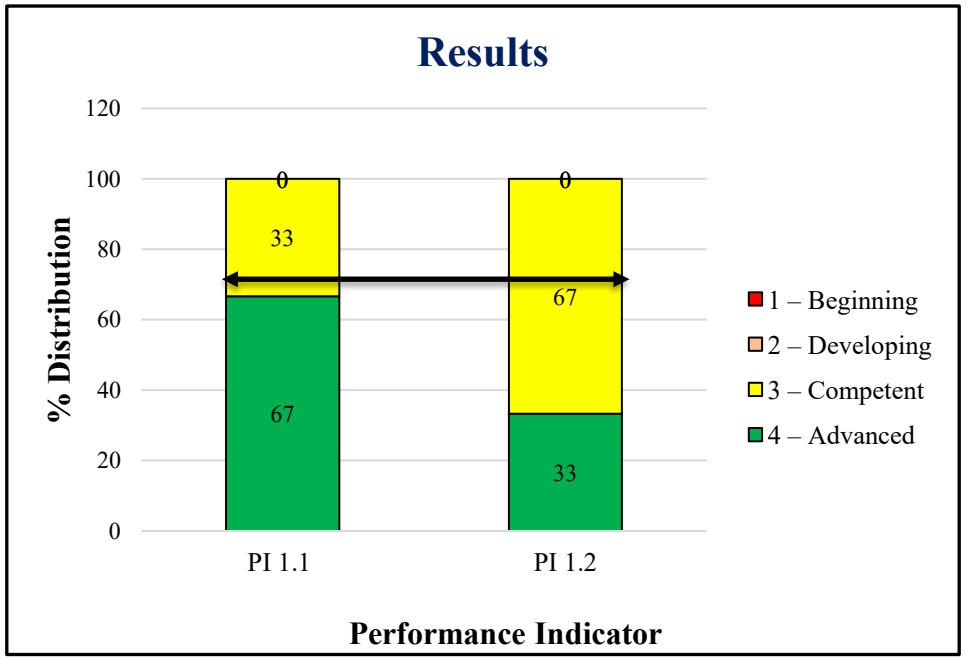


Figure 1: The assessment results of the performance indicators for the Fall 2025 (**Based on Course Instructor Input only**)

PLO 1: INDUSTRIAL SYSTEMS ANALYSIS (COMP EXAM)

TECH 5520 – Six Sigma for Manufacturing (for Comprehensive Exam)

Table 4: *Fall 2025 Assessment results based on* ***course instructor input***

Assessment Cycle	Performance Indicators	Assessment Results (% of students above satisfactory or exceeding standards) TECH 5520 (2 students)	Evaluation Summary (Target – 70%)
Academic Year	**PI 1.1 -** Analyzes industrial systems using appropriate analytical or improvement tools	100%	**Above Target**
2025- 2026	**PI 1.2 -** Proposes and justifies measurable improvements to system performance	100%	**Above Target**

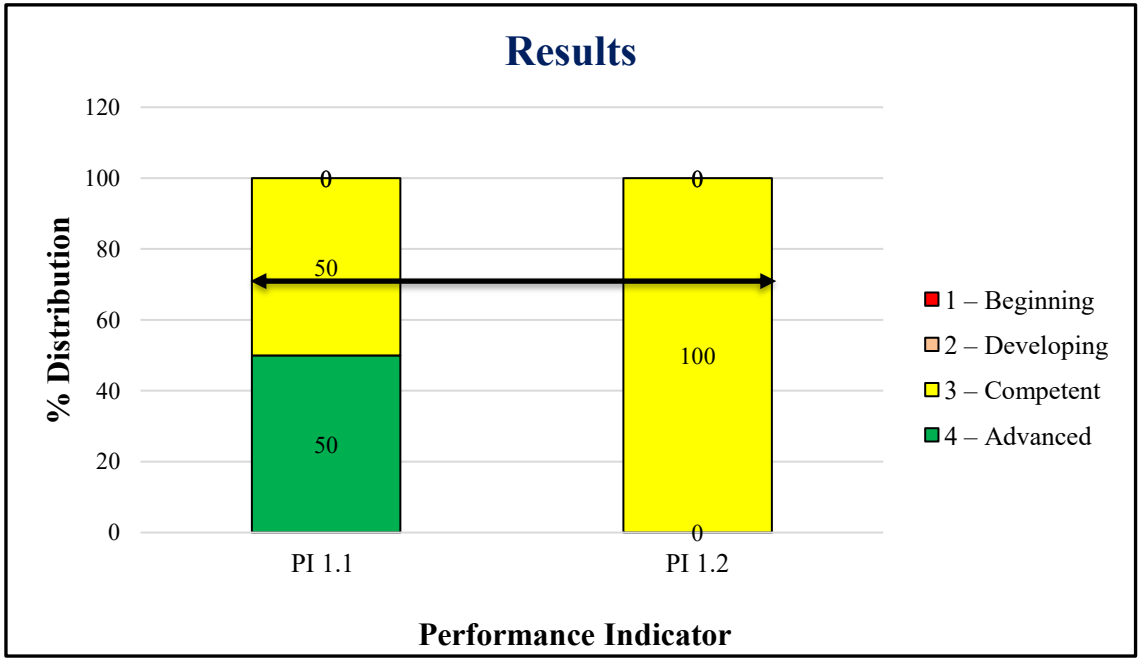


Figure 4: The assessment results of the performance indicators for the Fall 2025 (**Based on Course Instructor Input only**)

PLO 1: CONTINUOUS IMPROVEMENT

- Achieved - more than 70 % of students reached expected standard

PLO 2: LEADERSHIP & MANAGEMENT (COURSE WORK)

MGMT 5106 – Employee Motivation and Work Behavior

Table 2: *Fall 2025 Assessment results based on* ***course instructor input***

Assessment Cycle	Performance Indicators	Assessment Results (% of students above satisfactory or exceeding standards) MGMT 5106 (5 students)	Evaluation Summary (Target – 70%)
Academic Year 2025- 2026	***PI 2.1*** **-** Applies management and organizational behavior principles to workplace scenarios	100%	**Above Target**
	PI 2.2 **-** Develops leadership strategies to improve team performance	60%	**Below Target**

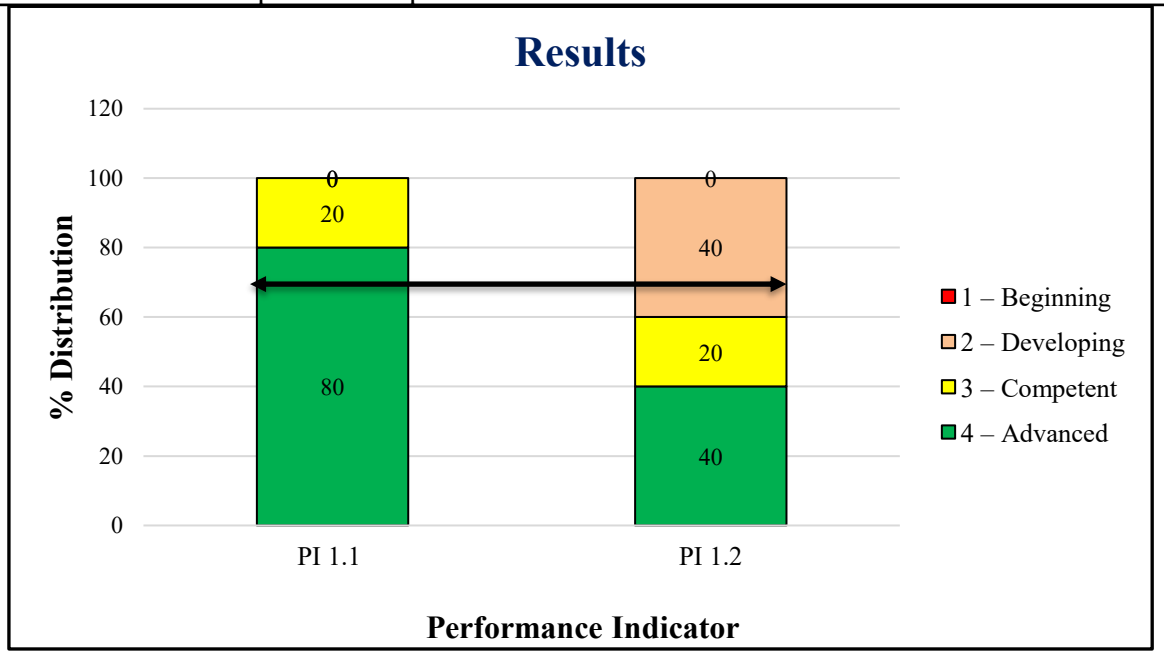


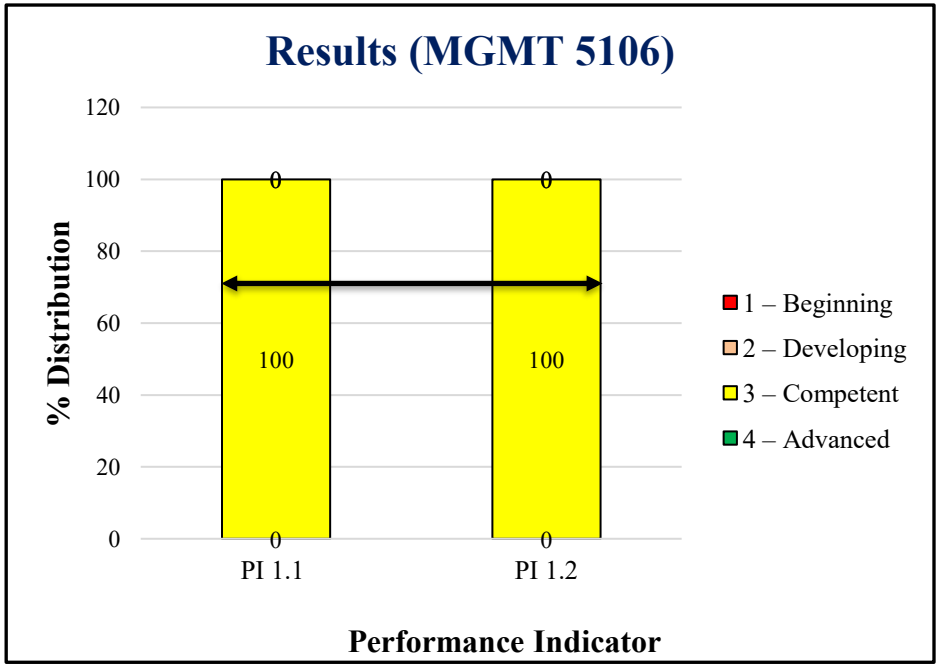
Figure 2: The assessment results of the performance indicators for the Fall 2025 (**Based on Course Instructor Input only**)

PLO 2: LEADERSHIP & MANAGEMENT (COMP EXAM)

MGMT 5106 – Employee Motivation and Work Behavior
TECH 5520 – Six Sigma for Manufacturing

Table 5: *Fall 2025 Assessment results based on* ***course instructor input***

Assessment Cycle	Performance Indicators	Assessment Results (% of students above satisfactory or exceeding standards) MGMT 5106 (1 student)	Assessment Results (% of students above satisfactory or exceeding standards) TECH 5520 (2 students)	Evaluation Summary (Target – 70%)
Academic Year 2025- 2026	**PI 2.1 -** Applies management and organizational behavior principles to workplace scenarios	100%	100%	**Above Target**
	PI 2.2 - Develops leadership strategies to improve team performance	100%	100%	**Above Target**



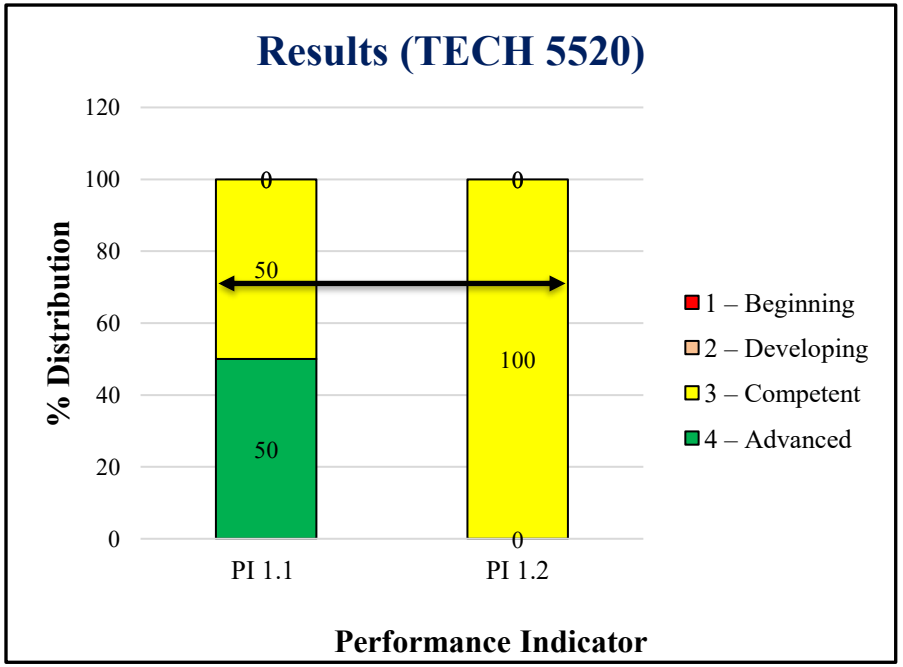


Figure 5: The assessment results of the performance indicators for the Fall 2025 (**Based on Course Instructor Input only**)

PLO 2: CONTINUOUS IMPROVEMENT

PI 2.2 - Develops leadership strategies to improve team performance
(60% < 70 % threshold)_

1. Modify the syllabus of MGMT 5106 (Employee Motivation) to include principles of effective teamwork earlier in the term. (When: Fall 2026)
2. Slightly increase the importance of the team project in the overall grade. (When: Fall 2026)
3. Add additional project milestones and progress reports, and incorporate peer evaluation as part of the overall grade.

PLO 4: TECHNOLOGY EVALUATION (COURSE WORK)

TECH 5100 – <u>Technology Forecasting and Assessment</u>

Table 3: *Fall 2025 Assessment results based on* ***course instructor input***

Assessment Cycle	Performance Indicators	Assessment Results (% of students above satisfactory or exceeding standards) TECH 5100 (9 students)	Evaluation Summary (Target – 70%)
Academic Year	***PI 4.1*** **-** Evaluates emerging or existing technologies for organizational use	66%	**Below Target**
2025- 2026	***PI 4.2*** **-** Develops implementation strategies based on strategic analysis	66%	**Below Target**

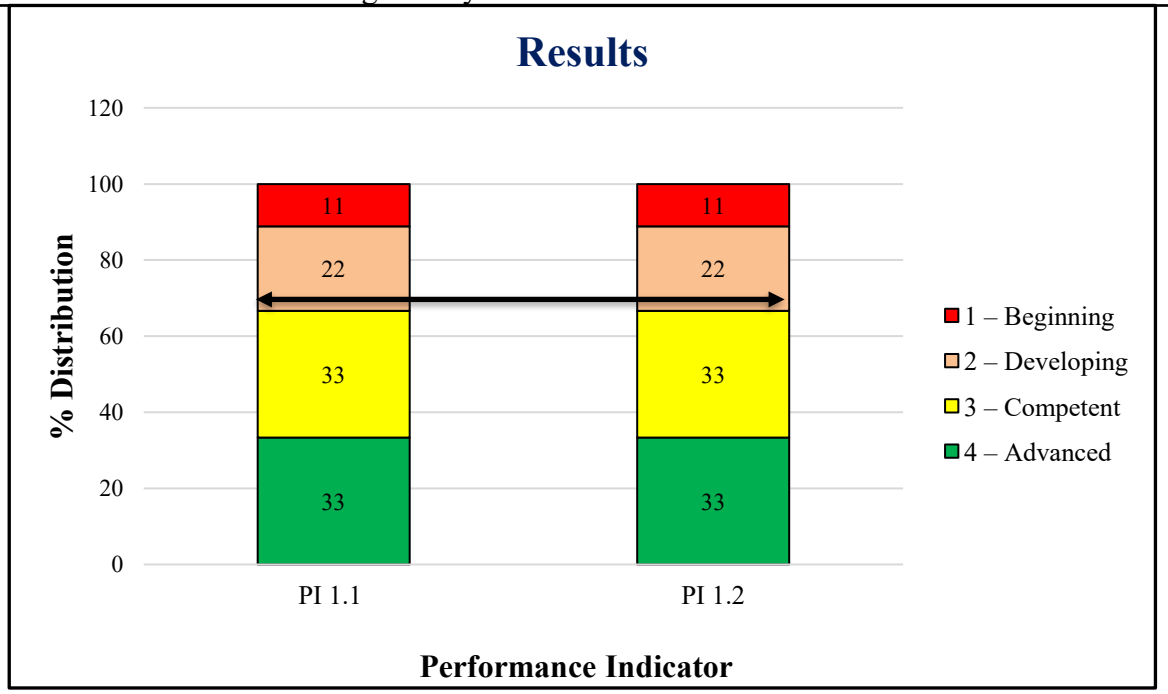


Figure 3: The assessment results of the performance indicators for the Fall 2025 (**Based on Course Instructor Input only**)

PLO 4.1: CONTINUOUS IMPROVEMENT

PI 4.1 - Evaluates emerging or existing technologies for organizational use

(66 % < 70 % threshold)
TECH 5100

1. Introduce a structured technology evaluation framework (e.g., cost-benefit, feasibility, risk, scalability) early in the course, and reinforce it through real-world case studies and/or guest speaker presentations.
2. Add an assignment such as a technology assessment brief, requiring students to evaluate an emerging or existing technology for a defined organization, using a clear rubric that emphasizes critical comparison rather than description.
3. Consider asking the ECST librarian to provide a tutorial or worksheet/assignment focused on accessing resources related to new and emerging technologies.

PLO 4.2: CONTINUOUS IMPROVEMENT

PI 4.2 - Develops implementation strategies based on strategic analysis

(66% < 70 % threshold)

1. Provide students with a clear implementation planning framework (including timelines, milestones, resource allocation, and change management), and integrate it into a scaffolded assignment sequence that moves from strategic analysis to a draft and then a final implementation plan.
2. This work can be directly tied to the team project and should require justification of key decisions, supported by iterative feedback on drafts.

PLO 5: APPLIED RESEARCH (COMP EXAM)

TECH 5900 – Research Development for Technology Leadership

Table 6: *Fall 2025 Assessment results based on* ***course instructor input***

Assessment Cycle	Performance Indicators	Assessment Results (% of students above satisfactory or exceeding standards) ETEC 4600 (3 students)	Evaluation Summary (Target – 70%)
Academic Year	***PI 5.1*** **-** Designs and conducts applied research relevant to industrial management	100%	**Above Target**
2025- 2026	***PI 5.2*** **-** Communicates research findings clearly in written and oral formats	100%	**Above Target**

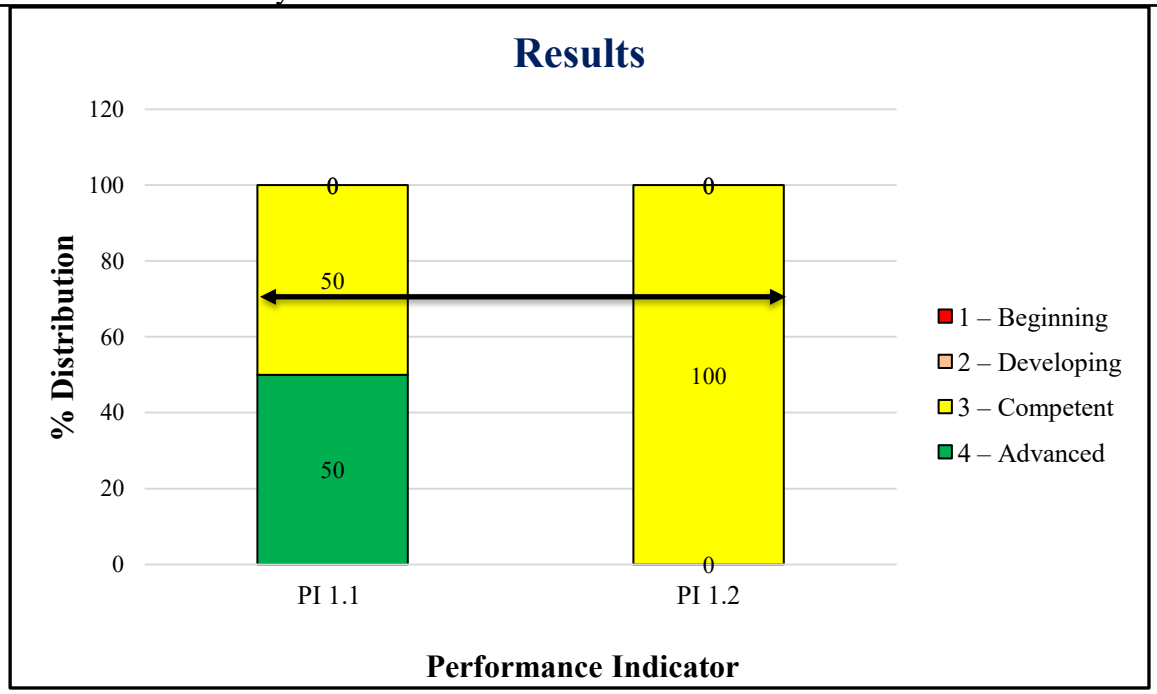


Figure 6: The assessment results of the performance indicators for the Fall 2025 (**Based on Course Instructor Input only**)

Future Curriculum Plans

- We plan to do a Blended program with our undergraduate programs
  - Engineering Technology
  - Aviation Administration
  - Fire Protection Administration
- Blended program with Engineering Technology, B.S. will prepare students better for the National Fundamentals of Engineering (F.E.) exam with Industrial & Systems Options –

  Enhancing Job Opportunities

CONCLUSIONS

- Assessment process is data-driven and systematic
- Program demonstrates strong overall performance
- Focused continuous improvements are planned
- Curriculum Revisions are planned

Acknowledgements

- Cooperation of MGMT Chair and Faculty for Assessment
- Similarly of our Technology Faculty for Assessment
- Assessment Mini-Grant

- **ANY Questions?**