



Annual Assessment Report for Academic Programs

The University Assessment Team advocates for the enhancement of student learning through purposeful, meaningful, and feasible student-outcomes assessment practices. The Assessment Team seeks to collaborate with programs, departments, and units to ensure that effective assessment of student learning occurs across the University. To assist in meeting this goal, the Team requests that you complete this Annual Assessment Report form to document student learning in your program. A PDF version of this completed form will be posted to the Academic Affairs Assessment website. Please note that this Annual Assessment Report form should only be completed after you have an Assessment Plan for Academic Programs forms on file with the University Assessment Team. The plan is completed once and only updated when revisions have been made to components of the plan.

1. **Degree Level and Program Name:** MS Technical Management
2. **College/School:** College of Engineering & Science
3. **Assessment Overview** - Briefly share how student learning outcomes assessment is conducted within your program/department (e.g. number of outcomes, examples of assignments used, and frequency of assessment).

The Master of Science in Technical Management (MSTM) has five learning outcomes. With Two learning outcomes being assessed in two of the years and one in the remaining year. This assessment cycle will include two learning outcomes #1 and #2 (see below).

Student Learning Outcome #1: Apply a unique set of technical and management skills. Using EMGT5040 Administration of Technical Businesses

Fall Term 2025 Students: 12 Graduate Engineering Students Instructor: Professor Jerome Gibbs

Quantitative assessment methods score = 4.7/5.0 94% 100% of students achieving this outcome overall (Both direct and indirect).

Assessment methods – Team collaboration research projects, strategy focused S.W.O.T. Analysis, weekly homework assignments, and specific exam problems.

Student Learning Outcome #2: Recognize the effects of new technology on management issues and use tools and processes to leverage new opportunities. Using EMGT5130 Technical Operations Management

Summer Term 2025 Students: 7 Graduate Engineering Students

Instructor: Professor Jerome Gibbs

Quantitative assessment methods score = 4.8/5.0 96% 100% of students achieving this outcome overall (Both direct and indirect).

Assessment methods – Team collaboration research projects, weekly homework assignments, technical business model S.W.O.T analysis studies, and specific exam problems.



4. Student Learning Outcomes & Benchmarks -Which student learning outcome(s) from the assessment plan filed with the University Assessment Team is/are being reported on in this report? Include the corresponding benchmark(s) for each outcome.

Student Learning Outcome #1: Apply a unique set of technical and management skills.

1. Quantitative assessment methods score = 4.7/5.0 94% 100% of students achieving this outcome overall (Both direct and indirect).

Assessment methods – Team collaboration research projects, strategy-focused S.W.O.T. Analysis, weekly homework assignments, and specific exam problems.

2. Technical and management decision making directly impacting business problem solving on environmental topics, ethics in business and engineering, and corporate social responsibility. Completed autonomous vehicle safety studies.

Completed research on technical ethical issues such as the diesel engine certification scandal, Boeing 737 Max Mcas product failures, Meta Facebook Cambridge Analytica & Wells Fargo bank.

Completed research regarding successful corporate social responsibility successes. Example – Patagonia clothing renewable materials.

Completed patent analysis which focused on major technical breakthroughs.

3. Subsequent offerings will research the impact of the Wall Street Magnificent 7 companies capital investments in AI on the overall product and service businesses and credible efficiencies. The Wall Street Magnificent 7 companies are Alphabet, Nvidia, Meta, Microsoft, Apple, Amazon, Tesla.

Subsequent offerings will ‘Deep Dive’ corporate strategies and business model decision making related to the development and implementation of emerging technologies. For example this includes private companies such as Anthropic, Open AI, X AI, etc. Study the impact of improvement in business efficiencies.

Subsequent offerings will investigate decision making related to vertical integration, supply chains, and global tariff business impacts.

4. Concrete evidence – Team collaboration evidence based research projects completed documents and final exam completed documents.

Student Learning Outcome #2: Recognize the effects of new technology on management issues and use tools and processes to leverage new opportunities.

1. Quantitative assessment methods score = 4.8/5.0 96% 100% of students achieving this outcome overall (Both direct and indirect).

Assessment methods – Team collaboration research projects, weekly homework assignments, technical business model S.W.O.T analysis studies, and specific exam problems.

2. Product development and supply chain decision making directly impacting semiconductor ‘chip’ technology strategies. Completed research on technical design and operations capabilities of Taiwan TSMC, Nvidia, China ‘Deep Seek’, AMD, & Intel. Completed research on AI cloud computing energy requirements.

Examples – Texas Stargate Project, LEED certifications, & private investments.

Completed Quality & Reliability studies utilizing data analytics to supplement existing DFMEA/PFMEA analytical models for product improvements.



3. Subsequent offerings will research the impact of the software engineering current use in technical operations versus emerging AI capabilities throughout industries.

Examples – Programming Python, Java or Data: Tableau, Power BI versus AI models. Complete research regarding operations requirements to develop processes to manage rare earth materials and mineral mining strategies.

Subsequent offerings will investigate traditional powerhouse business strategy versus planned AI data center reliance on local energy companies in communities. Study conflicts regarding AI and data center operations regulations.

4. Concrete evidence – Team collaboration evidence based research projects completed documents and final exam completed documents.

5. Institutional Outcomes - For which institutional outcome(s) do the reported student learning outcome(s) align?

SLO Outcome Alignment	Institutional Outcome
Yes	I. Jesuit & Mercy Values
	II. Diversity & Cultural Awareness
Yes	III. Critical Thinking & Problem Solving
	IV. Communication
Yes	V. Professionalism
	VI. Lifelong Learning

6. Assessment Period: Select the academic year for which you are reporting results (i.e. when data were collected):

2025-2026

7. Program Assessment Results -Briefly summarize the assessment results and how they relate to benchmark(s).

Student Learning Outcome #1: Apply a unique set of technical and management skills.

Quantitative assessment methods score = 4.7/5.0 94% 100% of students achieving this outcome overall (Both direct and indirect).

Student Learning Outcome #2: Recognize the effects of new technology on management issues and use tools and processes to leverage new opportunities.

Quantitative assessment methods score = 4.8/5.0 96% 100% of students achieving this outcome overall (Both direct and indirect).



8. **Planned Actions and/or Actions Taken in Response to Assessment Results** - Briefly summarize how you are using the assessment results to enhance student learning and improve program quality.

Student Learning Outcome #1: Apply a unique set of technical and management skills.

Feedback and course evaluation comments are applied to the next term. Also, course content will be updated with current examples and world issues that require solid technical and management skills.

Student Learning Outcome #2: Recognize the effects of new technology on management issues and use tools and processes to leverage new opportunities.

Feedback and course evaluation comments are applied to the next term. Also, course content will be updated with current examples and world issues that require reflection on evolving tools needed to recognize the effects of new technology on management issues and use tools and processes to leverage new opportunities.