

Advanced Manufacturing, Design & Management

Program Learning Outcomes

Learning outcomes represent culminating demonstrations of learning and achievement. In addition, learning outcomes are interrelated and cannot be viewed in isolation of one another. As such, they should be viewed as a comprehensive whole. They describe performances that demonstrate that significant integrated learning by graduates of the program has been achieved.

The graduate has reliably demonstrated the ability to

1. Develop strategies to optimize manufacturing processes for sustainability, productivity and cost-effectiveness.
2. Use computer-aided engineering tools to evaluate and enhance the functionality of mechanical systems for industrial applications.
3. Monitor and analyze production data to identify and implement measures that address quality issues in advanced manufacturing.
4. Prepare and deliver technical reports and presentations to inform stakeholders of progress and outcomes in advanced manufacturing projects.
5. Lead and contribute to multidisciplinary teams to achieve project objectives in manufacturing environments.
6. Make engineering decisions that uphold safety, sustainability and professional standards to achieve compliance with all relevant legislation, regulations and codes.
7. Develop and implement strategies for personal and professional growth to enhance performance, maintain industry relevance and adapt to emerging technologies and trends.
8. Plan, execute and monitor advanced manufacturing projects to meet deliveries, timelines and resource requirements.
9. Integrate robotics and automation technologies to optimize manufacturing processes and enhance system connectivity.
10. Produce and revise digital part models, assemblies and technical drawings with CAD tools to communicate design intent to manufacturing teams.
11. Use data-driven methods to support operational and economic decision-making in manufacturing settings.
12. Integrate digital manufacturing tools to streamline workflows and support production goals in advanced manufacturing environments.