# Program Outcome Guide

*Organizational unit that exists to assist learners in achieving specific learning outcomes.

## Program: AAS Mechanical Engineering Technology

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### Planning Team Members:
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### Program Purpose:
To prepare students for an entry level position in the field of mechanical engineering technology

### Program Prerequisites
*What must the student be able to do before engaging in work?*

- Pass basic reading and mathematics tests
- Know how to use a computer
- Know how to navigate within the computer interface
- Know how to find and save files
- Know what a mechanical engineer/technician does
- Have a basic understanding of engineering design
- Have a strong attention to detail

### Courses
*What learning experiences (courses) are necessary to prepare the student?*

- EGT 101 – Computerized Spreadsheets for Engineers
- EGT 136 – Mechanics
- EGT 231 – Strength of Materials
- EGT 234 – Machine Design
- CAD 152 – Computer-Aided Design I
- CAD 153 – Computer-Aided Design II
- EGT 234 – Fluid Power
- INT 110 – Fundamentals of Electricity
- EGT 150 – Introduction to CNC Programming
- INT 113 – Instrumentation and Process Control

### Capstone Assessment Tasks
*What can students do in this program to show evidence of the intended outcomes?*

Student will be able to provide a CAD portfolio that demonstrates the following:
- Skill in using the software and computer.
- Student will be able to take an engineering design problem from concept through finished product.
- Student will understand and be able to communicate in the language that computer-aided design drafters use to speak with one another.
- Students will be able to create a resume, a logo, and a variety of architectural and mechanical drawings.

Student will be able to provide an engineering workbook created using spreadsheet software to solve a real-world engineering problem. This workbook will contain professional formatting, various user-defined and built-in functions, macros, formulas, tables, charts, and custom buttons necessary to solve a common engineering problem.

Student will be able to provide various handwritten and electronic engineering calculations developed using a professional GFSA (Given-Find-Solution-Answer) format that is commonly used in the engineering industry.

Student will be able to provide a prototype of a mechanical part or assembly that he/she designed using 3D CAD software.

Student will be able to provide a mechanical part that he/she machined using CNC programming.

### Intended Outcomes
*What will students be able to do “out there” as a result of this program?*

- Students will be able to apply for an entry level position at an engineering firm or manufacturing facility
- Students will be able to transfer to an applied engineering technology/manufacturing baccalaureate degree major
- Students will have all the skills necessary to function as a contributing member of an engineering team.
- Students will be able to apply current knowledge and practices to solve specific technical problems.
- Students will be able to create, modify, and apply current industry standards to CAD drawings.
- Students will be able to design, troubleshoot, and maintain basic mechanical systems.
- Students will be able to develop, run, and troubleshoot basic CNC programs.