

## **Program Educational Objectives of the AAS in Mechanical Engineering Technology**

In the Morrisville State College (MSC) 2009-2010 College Catalog, the MSC Associate in Applied Science in Mechanical Engineering Technology Program description is as follows:

“Mechanical Engineering Technology applies almost universally to industry and engineering technology. It is oriented to production and is concerned with such areas as quality control, plant layout, product and material testing, plant maintenance, inspection/testing as well as product design and manufacturing engineering technology. The curriculum emphasizes such courses as machine design, materials, manufacturing processes, and computer application along with general education courses. It is a laboratory oriented program that provides a wide selection of courses in CAD, machining, basic electricity, machine design and manufacturing processes. A hands-on equipment philosophy applies from drafting to machining to hydraulics. Theory and practical work are coordinated to give a thorough but broad understanding of the skills required by industry. The program, which is TAC of ABET accredited, prepares the student to enter manufacturing or allied industries as a draftsman, designer, engineering technician aide, laboratory technician, quality and production control technician or as a technician in plant operation. Most mechanical engineering technology graduates pursue a four-year degree in Mechanical Engineering Technology, Manufacturing Engineering Technology, or Computer-Integrated Manufacturing Technology.”

In keeping with the program description, the Morrisville State College A.A.S in Mechanical Engineering Technology Program has adopted the following Program Educational Objectives:

The students shall:

- a) Acquire problem-solving skills needed to function as an engineering technologist.
- b) Acquire appropriate AAS-level analytical knowledge in MET.
- c) Acquire “hands-on” experience in a wide range of mechanical design and manufacturing applications.
- d) Acquire good oral and written communications skills.
- e) Acquire an awareness of professional ethics.
- f) Acquire an appreciation for workplace & social diversity.
- g) Have the ability for life-long learning and continued formal education.

### **Program Outcomes of the AAS in Mechanical Engineering Technology**

To achieve the stated Program Educational Objectives associated with the AAS in Mechanical Engineering Technology, the following program outcomes have been promulgated:

#### **1. Knowledge:**

- a) Concepts, language, conventions, and tools of technical graphical communication.
- b) Theory and principles of metal removal, manufacturing operations and related production technology.
- c) Theory and concepts of applied mechanical design, analysis, and material and component selection and specification.

#### **2. Skills:**

- a) Evaluate functional requirements to create a toleranced part drawing.
- b) Utilize measurement equipment and both manual and CNC machine tools to produce and evaluate a manufactured part.
- c) Specify a material for an application and evaluate material properties by performing standard laboratory tests.
- d) Apply analytical and standard laboratory testing techniques to determine and evaluate forces, stresses, strains, and deformations in structural members.
- e) Understand the kinematics of typical mechanisms and specify standard components based on performance requirements.
- f) Ability to work in a team.
- g) Familiarity with a professional code of ethics.

#### **3. General Education:**

- a) Critical thinking.
- b) Analytical thinking and problem solving.
- c) Written and oral communications.
- d) Professional ethical behavior.
- e) Cognizance of diversity and respect for others.