

Manufacturing Technology

Professional Upgrade

Certificate

Associate of Applied Science Degree

PROGRAM CODES: AAS.MANUFTECH, CC.MANUFTECH

Course work in manufacturing technology prepares students for careers in high-tech manufacturing by producing products to exacting industrial standards utilizing current manual and computer-aided machine tool technology. Many classes are taught in a flexible, open-lab format and students may enter the program any term.

Individualized daytime and evening instruction is provided in the operation of machine tools such as: lathes, mills, surface and cylindrical grinders and common machine shop equipment. Included in the degree program is the study of computer numerical control (CNC) programming and machining for milling, turning and electrical discharge machining (EDM), as well as courses in computer-aided manufacturing (CAM) utilizing current industrial CAD/CAM software. Quality control is stressed while students are taught a wide range of measuring and inspection techniques. Other topics include courses offered in welding, materials science and basic electricity. Many students enroll in these courses to upgrade existing job skills and several of our courses satisfy the continuing education unit (CEU) requirements of local apprenticeships and trade organizations.

PROGRAM OUTCOMES

Manufacturing Technology AAS Degree

Upon successful completion of this program, students should be able to:

- set-up and operate manual machine tools to produce machined products to required specifications by applying appropriate skills, processes, and technologies;
- set-up and operate CNC machine tools to produce machined products to required specifications by applying appropriate skills, processes, and technologies;
- apply computer software applications to produce manufacturing related documents, create CAD models, and generate CAM programs for machining processes;
- apply knowledge of materials, physics and mathematics to effectively machine industrial materials;
- apply critical thinking skills to solve common machining and manufacturing problems;
- work safely in an industrial environment around machinery, power tools, electricity and chemicals.

PROGRAM OUTCOMES

Manufacturing Technology Certificate Degree

Upon successful completion of this program, students should be able to:

- work independently on manual machine tools to produce machined products to required specifications by applying appropriate skills, processes, and technologies;
- work independently on CNC machine tools to produce machined products to required specifications by applying appropriate skills, processes, and technologies;
- apply critical thinking skills to solve common machining and manufacturing problems;
- work safely in an industrial environment around machinery, power tools, electricity and chemicals.

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