MANUFACTURING TECHNOLOGY

Program Description

Computer-Aided Design Technology

The Computer-Aided Design program prepares the student for employment in Mechanical, Architectural and Civil Design. Through the use of current CAD software, students will build their skill level beginning with two dimensional drawings and working their way up to three dimensional solid based modeling. With the majority of the work completed on the computer and a project in the area of student's interest, this program ties the course to real world concepts. Career options include Architectural Drafter/Designer, Mechanical Drafter/ Designer and Civil Drafter/Designer.

Machine and Manufacturing Trades

The machining and manufacturing trades specialization offers classroom instruction and related lab work with hands-on activities in the use of machine tools and the operation of equipment found in manufacturing. Students work in the area of blueprint reading, computer numerical control (CNC), machining, general machining and maintenance, CAD and related mathematics. The program is designed to meet competency-based standards set by the industry. Attitude and quality of workmanship are stressed. Career options include entry level machinist, computer-numerical control operator, numerical tool and process technician, manufacturing engineering technician and manufacturing inspection technician.

Machining Technology

The Associate of Applied Science with the manufacturing technology major offers classroom instruction and related lab work with hands-on activities in the use of machine tools and the operation of equipment found in manufacturing. In the machining technology emphasis students learn to apply industrial knowledge and skills to plan and implement designs, operate manual mills and lathes, operate computer-aided machinery with CAD/CAM software and computer numerical controlled (CNC) machines. Students also develop the skills that enable them to read blueprints, apply appropriate mathematical concepts and understand the properties of metal and polymers. This course of study is designed to meet competency-based standards set by the manufacturing industry. With this degree, students will be qualified for the following employment opportunities: entry-level machinist, computer numerical control operator, numerical tool and process technician, manufacturing engineering technician and manufacturing inspection technician.

Welding Technology

The Welding Technology program is designed to provide training and opportunity to become proficient at SMAW, GMAW, GTAW, FCAW, OAW, OAC, PAC, CAC-A on plate, and Robotic Welding with state-of-the art welding instruction. This program offers classroom lecture and related lab work. Students study welding, cutting, layout, fabrication and technical math. Safety, attitude and quality of workmanship are stressed throughout this course. The welding certificate prepares students for entry-level placement in a wide range of jobs in the welding industry and is designed to meet competency based standards set by the American Welding Society. This program trains students to become certified AWS, API, ASME welders in the welding industry.

The Welding Technology AAS degree prepares students for advanced level placement in a wide range of jobs in the welding industry and is designed to meet competency based standards set by the American Welding Society.

Certificate programs are designed to be employment-directed for beginning level jobs. Students should check with a welding instructor/ advisor about options for specialized employment training requiring a shorter period of training.

The Associate of Applied Science degree program includes many of the same technical courses as the technical certificate. Also included are machining and Computer Aided Design (CAD) courses that are essential for job advancement to more technical levels after employment.

Courses are designed to give students an adequate knowledge of metals, layout work and welding processes, along with an opportunity to gain hands-on skills and the related information needed to enter and progress in various welding occupations. Instruction and shop practice is offered in SMAW, GMAW, FCAW and GTAW of mild steel in all positions as well as pipe and specialty welding. Various cutting and fabrication methods are included. Students can arrange work experience as an elective part of the regular program after completing two semesters or more.

Contact Information

Office of Student Services
CMU Tech, Bishop B102
2508 Blichmann Avenue
970.255.2670

Programs of Study

Associates

- Machining Technology, Manufacturing Technology (AAS)
- Welding Technology, Manufacturing Technology (AAS)

Certificates

- Architectural Drafting, Manufacturing Technology (Technical Certificate)
- Basic Welder, Manufacturing Technology (Technical Certificate)
- Civil Drafting, Manufacturing Technology (Technical Certificate)
- CNC Machinist, Manufacturing Technology (Technical Certificate)
- Computer Aided Design/Computer Aided Manufacturing (CAD/CAM), Manufacturing Technology (Technical Certificate)
- Entry Level Machining, Manufacturing Technology (Technical Certificate)
- Machine and Manufacturing Trades, Manufacturing Technology (Technical Certificate)
- Manual Machinist, Manufacturing Technology (Technical Certificate)
- Mechanical Drafting, Manufacturing Technology (Technical Certificate)
- Welding Technology, Manufacturing Technology (Technical Certificate)