SCTD

Bachelor of Science in Advanced Manufacturing Technology (AMT)

New Equipment

Class projects in the Advanced Manufacturing Technology (AMT) program focus on real-life practical applications you will encounter in the industry. This will help you develop the applied skills to excel in a manufacturing environment. SCTD has added new equipment and trainers in several areas in manufacturing, including 3D printing, robotics, CNC routing and Programmable Logic Controllers.

With all of this new equipment, SCTD students have the experiences needed to be successful in the manufacturing industry. SCTD’s manufacturing technology program has a lot to offer students!

The Mechanical Engineering Technology (MET) and Advanced Manufacturing Technology (AMT) departments purchased two MakerBot Replicator 2X 3D printers for use in the
bachelor’s program. These printers, named Thing 1 and Thing 2, were installed in June and have been producing useful examples of what is capable with this new technology.

Some of the items are simple and quickly produced; others are extremely complex and can take multiple hours to produce. The quality of these items is extremely good, allowing them to be assembled or used immediately after production.

SCTD’s students will have the opportunity to design, produce, assemble and critique their own mechanical devices. Such work will allow them to see why certain designs are not easily produced or generate poor quality. Students who engage with this technology will have many opportunities to apply the knowledge they gain in the program and expand their horizons.

Meet the M-1/A Fanuc robot. This is a 6-axis Delta style or Spider robot from Fanuc Robotics. This robot is designed for small part material handling, high-speed pick and place, and complex assembly applications. This system includes the iRVision camera system. The current application is a pill-sorting program that selects randomly placed red and white pills and bottles them by color. This Certified Education Robot Training (CERT) teaches students how to use the latest robotic automation.
As a part of the AMT program’s Engineering Programming Language Course, students will be working with a CNC router. The FireBall Meteor is high-performance, general-purpose machine tool positioner, suitable for many uses, such as guitar building, clock making, plaque creation, sign making, RC aircraft part development and many more projects.
For many years, the MET Department has been using the Allen-Bradley SLC500 PLC 16 bit system using the RS Logix 500 programming software to train our associate degree program students for the industrial environment.

With the implementation of the AMT bachelor’s program, several new and exciting pieces of equipment and software applications have been added.

To give students experience with more types of PLCs, SCTD has added an Amatrol troubleshooting trainer utilizing the Allen-Bradley Contrologix 32 bit system with the RS Logix 5000 programming software.

We have two additional troubleshooting portable trainers that utilize the Siemens S7-1200 PLC with HMI interface, temperature control, motor control and stepper motor control.
Finally, we have two Allen-Bradley MicroLogix 1000 integrated with IT's PLC Simulation Software and A/D converter module that allows control of simulated conveyors, pick and place robots, paint-mixing systems and several other industrial applications. With this package, students integrate two or more separate systems to work together to perform a complex work function.