



# Advanced Manufacturing and Engineering

Grades 11 & 12

**Orleans Career and Technical Education Center Only.** The National Award Winning Advanced Manufacturing and engineering Program is two years in length and is designed to develop skills, which will allow graduates to obtain employment in the Advanced Manufacturing and Engineering Fields.

The Advanced Manufacturing Program is only one of three in New York State involved with the NASA Hunch Program. The students in AME are making hardware that will be used on the International Space Station. Currently the AME program has parts onboard the ISS that were made in class on the equipment in the program.

Over the two year program students are exposed to Precision Machining, Computer Aided Design and Welding Technologies, experiencing the interaction of multiple technologies in a real manufacturing environment and from field trips to local industries. All students will follow approved industry methods and engineering standards while learning to fabricate industry specific metal products.

It is also not unusual to find a high percentage of our capable students employed part or full time in the machine trades by the spring of their senior year as part of the "Capstoning" program.

Upon completion of the program students will have:

Acquired tooling and machining skills utilizing computer driven (CNC) layout techniques and manual techniques (cnc mills/lathes/plasma and laser machines)

Gained knowledge and skills in a variety of metal joining, cutting and fabrication processes

Learned how to create simple and complex parts, understanding how and why those parts are graphically depicted on blueprints

The ability to visualize a complete part from a drawing through utilization of 3D printing

Used various design processes utilizing leading edge software and technologies - Be able to operate machining and fabrication equipment

## Applied Academics

Students enrolled in the Advanced Manufacturing and Engineering program can earn credits that will satisfy core academic requirements in English Language Arts, Math and Science. Through the integration of these core academics, achieving a Regents Diploma remains in reach.

## College Agreements

In addition to gaining the skills needed to enter the workforce, this program provides an excellent foundation for students looking to enter a college program. Articulation agreements for college credit are in place with: Alfred State School of Applied Technology (6 hours), Erie Community College (10 credits), Genesee Community College (9 credits), Monroe Community College (Dual Enrollment for two classes) and Niagara County Community College (10 credit hours).

## How to Enroll

Orleans/Niagara BOCES partners with local school districts to provide exciting hands-on career and technical training during normal school day. To learn more, speak with your high school counselor or you can contact Orleans/Niagara BOCES Orleans Career and Technical Education Center Principal Mr. Michael Mann at [mmann@onboces.org](mailto:mmann@onboces.org).

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