2016 AWARD WINNER
EXCELLENCE IN ACTION
Science, Technology, Engineering & Mathematics
CAREER CLUSTER

TBA ISD CTC CAREER-TECH CENTER

MTA Manufacturing Technology Academy

Traverse Bay Area Intermediate School District Career-Tech Center

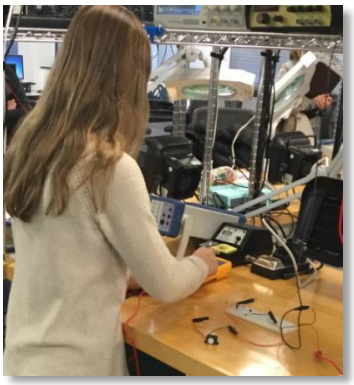
Manufacturing Technology Academy

Science, Technology, Engineering & Mathematics Career Cluster

Overview

Students (56)	Percentage
Male	73%
Female	27%
Low-income	5%

The Manufacturing Technology Academy (MTA) at Traverse Bay Area Intermediate School District Career-Tech Center in Traverse City, Michigan, brings students from 25 high schools to meet four hours a day, five days per week for rigorous academic and real-world technical coursework. The first program of its kind in the community, MTA began over 20 years ago after local businesses approached the career-tech center and local community colleges needing qualified employees in the manufacturing and engineering fields. In partnership with education and business leaders, staff built the MTA, featuring stellar educators, a multitude of work-based learning opportunities and dual enrollment.



Alignment with Industry Aims to Fill Skills Gap

MTA has developed an incredible advisory board that has recruited almost **50 industry and business partners** to offer a variety of resources, including a dedicated mentor for every student, internships, job shadowing, funding, facility tours, seminars and more. In addition to providing authentic industry experiences for students, partners give advice and guidance about industry practice and standards, equipment, and curricular improvements. In fact, the advisory board -- comprised of industry leaders, educational partners, parents, students and administrators -- meets monthly to review the course curriculum. For example, one partner, General Motors, shared the ethical dilemmas that engineers are likely to face regarding market pressure and regulations, which then informed the MTA curriculum. Instructors now include lessons on ethics and economics to ensure that students have the problem solving and critical thinking skills needed to recognize and respond appropriately to real-world challenges and dilemmas.

In addition to an evolving and innovative curriculum that directly aligns with industry needs, every student participates in an internship ranging from 80–240 hours where they are exposed to the spectrum of manufacturing processes as well as business operations and management procedures. A variety of internship assignments are required, including: an internship summary and journal with specific requirements; a post-internship, detailed conference with the technology instructor; a formal

"Students I have mentored have had successful local internships. Last summer [a student] working at Britten Subsidiary introduced rapid prototyping to their process which reduced costs by $500 per product. The Subsidiary President wrote a letter of commendation documenting the savings and assured [the student] future summer employment. I am honored to work with such capable students." – A.B. Jordan, Jordan Associates

10-15 minute presentation to the entire MTA student body; and then a professional thank you letter, on MTA letterhead, written to the internship supervisor.

Student skill competitions also play a vital role in the success of MTA. By participating in SkillsUSA, FIRST Robotics, National Robotics Challenge, Marine Advanced Technology Education and Remotely Operated Vehicle Competition, students learn to motivate and respect their teammates and apply the skills they learn in the classroom. Undertaking competitions requires collaboration, communication, time management, problem solving and mutual respect, all skills that are needed to succeed in the workplace.

Dual Enrollment Leads Students to Postsecondary Education

Dual enrollment credits are offered to create a seamless transition from secondary to postsecondary education through six courses at Northwestern Michigan College and six at Ferris State University. Additionally, students can also enroll in TBA Early College (TBAEC), where they can earn 60 college credits and an associate's degree before graduating high school. Seven students at MTA currently take full advantage of this program.

Furthermore, students can graduate with the Passes Edge (Parent for Student Safety Employment Standards) safety certification after they participate in training around topics such as safe use of chemicals, proper lifting techniques and operating machinery.

Success by the Numbers

A dedicated cohort of partners, an evolving curriculum and amazing work-based learning opportunities have led to the program's continued success.

100%

Earned Industry-recognized Credential

55%

Earned Postsecondary Credit

100%

Participated in Work-based Learning

100%

Graduated High School

100%

Enrolled in Postsecondary Education

Data based on 2014-2015 school year