The Kenmore-Town of Tonawanda UFSD’s Pre-Engineering Academy is one of the four Ken-Ton Academies, which also includes programs in business/finance, computers, and information technology.

The Pre-Engineering Academy is available to all district students at both Kenmore East High School and Kenmore West High School. The program offers a five-course sequence that provides students preparation for today’s high-tech careers, whether their path leads to college, military service, apprenticeships, or directly to employment.

The Pre-Engineering Academy offers students a contemporary STEM experience, where they gain exposure to engineering design, robotics, prototype development, automation, electronics, and computer science. The required Project Lead The Way (PLTW) courses and the electives provide a mix of learning opportunities, including prototyping using modern equipment and traditional hands-on fabricating. Since initial NYSED approval in 2012, the pre-engineering program has matured, with cohorts of from 12 to 35 students earning their diplomas with CTE endorsement each year.

Since the first year of approval, student enrollment and completion rates have steadily increased. In the 2014-15 school year, 16 pre-engineering
students completed all program requirements. In 2018, 35 students earned the diploma endorsement. The NOCTI Pre-Engineering Job Ready assessment has been implemented each year since approval to great success, with a district overall passing rate of 98%.

Pre-engineering students participate in a wide variety of projects within the CTE sequence. Undertakings include assembly-line design and fabrication, robotics and automation design, digital electronic circuit projects, 3D modeling projects, CNC (computerized numerical control) programming, and prototype fabrication and 3D printing.

Additionally, all students must complete a capstone design project in which they direct all efforts leading from design through fabrication.

**INDUSTRY CERTIFICATIONS**

Students have the opportunity to earn the CompTIA IT Fundamentals credential from the Computing Technology Industry Association.

**ARTICULATION AGREEMENTS**

- Rochester Institute of Technology (RIT)
- Erie Community College (ECC)
- Buffalo State College

**PARTNERSHIPS**

The district has partnered with Buffalo Manufacturing Works, General Motors, Confer Plastics, Erie Community College, University at Buffalo, USitek, and others over the years. Partners offer field trips, professional development sessions, and mentoring for project design.

**AWARDS**

- The following awards have been presented to the Ken-Ton Academies. The Pre-Engineering Academy is one of the four CTE programs in the Ken-Ton Academies.
  - 2014 President’s School of Excellence Award – Phi Delta Kappa International, Buffalo-Niagara Chapter 0047
  - 2014 Western New York Emerging STEM School System – WNY STEM
  - 2014 Hodgson Russ Excellence in Collaboration Honor Award – Hodgson Russ Attorneys & Erie County Association of School Boards

About CTE TAC of NY

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