

Superintendent's Message

Science, Technology, Engineering, Agriculture & Arts, and Mathematics – these concentrations of study fall under the broad umbrella of our new curriculum in this “innovation zone” program, many aspects of which begin at the elementary level, at OA Schools.

In our STEAM Academy, students will be exposed to problem-based learning beginning at the earliest grade levels, culminating with studies within the STEAM Academy at the middle and high school levels.

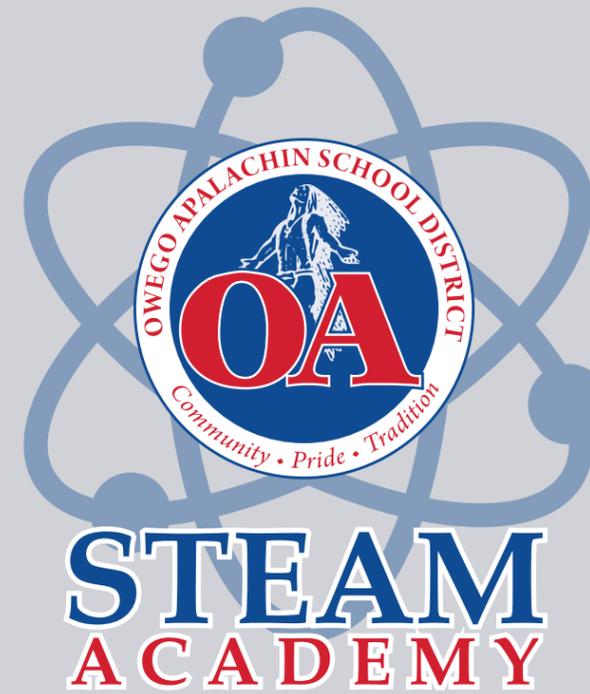
As our students begin to view education through the STEAM lens, they will tackle a broad array of concepts while incorporating the four C's of 21st Century learning – critical thinking, communication, collaboration, and creativity. In addition, students will be offered a wide range of stimulating electives within the STEAM Academy, as they work closely with their peers and teachers toward common goals.

Commitment to the best education possible



Corey Green
OA Superintendent

requires support from parents, students as well as staff and that common commitment will be the key to our success here at the OA STEAM Academy. It's with pride and excitement that we continue to move forward with such an innovative pathway program which we believe will best prepare our children for college and the workplace of tomorrow.



Science • Technology • Engineering • Agriculture/Arts • Math

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Owego Apalachin School District
5 Sheldon Guile Boulevard, Owego, NY 13827
Phone: (607) 687-7307
www.oacsd.org
OA Schools on Facebook
@OAUpdate on Twitter



Building for Tomorrow

With widespread gains in public funding to STEM and STEAM programs statewide, we are making bold moves to ensure that our students are well prepared for the world awaiting them, and what better way to help us in that challenge than by bringing the world to them.

Our primary focus today is to foster an even stronger relationship with area business leaders so that these connections can become models for other schools, and other communities, certainly statewide and perhaps even nationwide.

Our goals are aggressive. But when our potential partners see how we have blended our history and traditions with progress through our recent district branding efforts, then combine our strong curriculum in place today with what's just around the bend, we believe they will share our realistic optimism and unbridled enthusiasm. Things may seem to be happening quickly, from an outsider's perspective. But our years-long vision led us to construct an enterprise-grade, districtwide network that will support the latest technology as we build for tomorrow.

What's in Our STEAM?

Aquaponics

Combines agriculture (raising fish) and hydroponics (the soil-less growing of plants) in one integrated system.

Makerspaces

Provide hands-on, creative ways to encourage students to design, experiment, build and invent as they engage in science, engineering, as well as tinkering.

CNC Machining

A process used in manufacturing involving computers to control machine tools.

Manufacturing Processes

A lab equipped with modern and traditional machine tools for students to practice manufacturing operations and to fabricate designs.

Fabrication "Fab" Lab

A small-scale workshop offering digital fabrication, equipped with an array of flexible computer-controlled tools.

Engineering/Design 3D Printing

Exposes students to processes, research and analysis, teamwork, communication methods, global and human impacts, engineering standards, and technical documentation.

Pre-Engineering

Provides every student with the skills needed to succeed in such rigorous and technical fields as engineering, architecture, medicine, computer programming, mathematics, biology, chemistry and physics.

3D Virtual Learning

An internet-based technology allowing students to step into 3D interactive environments based on STEAM ideas. It puts students inside their subjects, and gives them context in which they can build mental models to better understand STEAM ideas.



Coding

Makes it possible for us to create computer software, apps and websites. Your browser, your OS, the apps on your phone, Facebook, and any website – they're all made with code.

Vex Robotics

An engineering branch involving conception, design, manufacture and operation of robots. The field overlaps with electronics, computer science, artificial intelligence, mechatronics, nanotechnology and bioengineering.

Traditional and Digital Arts

From painting, drawing and sculpting, OA allows students to explore multiple mediums, and progress as they advance through our program. Alongside more traditional arts, photography and Photoshop allow for other avenues of creativity.

Performing Arts

From our award-winning bands (from stage to jazz), to our pop/rock group "Making the Band," to more award-winning choral opportunities, all of which can lead to performances in the annual school musical, our students at OA are offered a great musical menu from which to choose.

Partnerships to Success

Project Lead The Way. Blue Horizon Balloon Club. Video game design. Computer-aided robotics. These are all fruitful programs where our students get invaluable experience and exposure through networking with area business leadership. But these are also essentially stand-alone models. Deeper connections will make every difference to our students.

Today at OA Schools we're connecting nearly every aspect of our curriculum to the rest of them. Starting students in subject tracks as soon as they're old enough to walk in our doors, they continue in STEAM coursework until the week they graduate.

Our goal is coming to fruition. We have created a STEAM wing, and this fall our increased course opportunities reflect a shift in a curriculum-wide realignment. All our grade levels will be introduced to

STEAM-driven activities, from our summer enrichment to the subject matter in classrooms each day.

We have strong partnerships with area businesses and we continue to cultivate and expand those connections. We also have a partnership with Tompkins Cortland Community College, and our focus now turns to increasing partnerships to include Binghamton University, Ithaca College, Cornell and Syracuse universities, SUNY Broome and Elmira College.



A Shift to Maker Schools

Education is in the midst of a critical shift from traditional teaching and test preparation to more hands-on, meaningful learning that requires a different skill set in our students. Schools nationwide are embracing Pathways to College and Workplace Success, though a



focused curriculum that spans Pre-K through a student's senior year, as well as through infusing STEAM (the thoughtful integration of science, technology, engineering, art & agriculture, and math) into their curriculum.

The shift from what we used to see as STEM to STEAM

allows left-brain thinkers the chance to analyze problems and articulate solutions, while it gives right-brain designers the ability to imagine and express learning through art, music, movement, inventive thinking and agriculture.

In many schools, where STEAM intersects with the "makerspace" movement. A "makerspace" is a collaborative work space set aside for making, learning, exploring and sharing, that uses high tech, or no tech at all.

At OA Schools, we are embracing this movement head-on. We believe that students can grow and learn when faced with new challenges. As students develop a new mindset toward learning, they can increase their chances for success in college, career and beyond.