



New for September 2009...* **NEW VISIONS ENGINEERING

An academically rigorous one-year program for college-bound high school seniors who plan to major in an engineering discipline.

New Visions Engineering students receive instruction in Calculus, Physics, and various engineering principles. Students explore the world of engineering through hands-on projects that integrate academics and engineering concepts. Job shadowing opportunities and site visits are coordinated throughout the school year enabling the students to see first-hand the activities and responsibilities related to various engineering disciplines.

ADMISSION: Admission to the New Visions Program is competitive and highly selective.

Students from our 18 component school districts compete for 12 available positions. Successful applicants must demonstrate above-average ability in math and science, have a strong work ethic, and show genuine interest in the field of engineering.

Specific requirements recommended include:

- Three years each of New York State Regents math, science, English and social studies; pre-calculus is strongly recommended and a year of Regents physics is beneficial. Written transcript required.
- Recommendations from a math or science teacher, employer or community member, and a school counselor.
- A completed application, including an autobiographical essay stating your reason for applying to the program.
- An interview in front of an interdisciplinary team comprised of teachers, engineering professionals, and administrators.

SETTING/SCHEDULE: The Tech Center at Yorktown - 8:00 a.m. – 12:00 p.m.

New Visions Engineering students regularly attend class at The Tech Center at Yorktown in a classroom equipped with a computer for each student, a CNC and vertical mill, a wind tunnel, miter saw, workbenches and tool chests, and a designated lecture area.

Physics labs are conducted on the campus of a college where a state of the art lab is made accessible. The college provides invaluable support for this laboratory requirement. The Tech Center at Yorktown has worked to create this valuable educational experience for high school seniors interested in pursuing engineering. New Visions Engineering students return to their home school at 12:00 p.m. for additional classes and extra-curricular activities.

CURRICULUM

Students will have the opportunity to observe and participate in various rotations within the field of engineering. Course is project based learning with relevant integrated academics including physics, calculus, English, and social studies.

Areas of Engineering

Aerospace Engineering	Environmental Engineering (sustainable design)	Calculus	Physics
Biomedical Engineering	Industrial Engineering (robotics)	Functional Analysis	Kinematics
Chemical Engineering	Mechanical Engineering	Differential Calculus	Newton’s Law
Civil Engineering	Nuclear Engineering	Integral Calculus	Energy Conservation
Electrical Engineering	Structural Engineering		Rotational Motion
			Harmonic Motion

ACADEMIC CREDIT: Students are provided instruction in preparation to take the advanced placement (AP) exams in both physics and calculus at the end of the school year. The Tech Center at Yorktown offers the following academic credit; one credit in calculus, one credit in physics, one credit in English, one credit in social studies, and two credits in engineering exploration. One-half credit in physical education is also available upon request.

COLLEGE CREDIT: Three Credits SUNY Composition and Literature; three credits Syracuse University Public Affairs; with possibility of additional college credits.

RESULTS: Upon successful completion of this rigorous one-year program student will have:

- Completed a highly competitive admission process
- Immersed themselves in an interdisciplinary experience in the world of engineering
- Worked with engineers in the field
- Applied academics to real-life scenarios in a variety of engineering disciplines
- Witness the application of engineering principles
- Communicated effectively through written and verbal presentations
- Achieved a level of professional development uncommon to most high school students

COLLEGE: Our goal is for New Visions graduates to attend colleges for engineering that could include:

Clarkson University	Cornell University	Drexel University	U.S. Naval Academy
Rensselaer Polytechnic Institute	Lehigh University	Dartmouth College	U.S. Air Force Academy
Massachusetts Institute of Technology	SUNY Binghamton	Vassar College	U.S. Military Academy at West Point
Stevens Institute of Technology	SUNY Buffalo	Manhattan College	

LEARN MORE: Contact: Cathy Balestrieri, Assistant Director of Career and Tech Ed.

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