



# TechValley

## HIGH SCHOOL

YOUR PASSPORT TO THE FUTURE

- Innovation • Collaboration • Success • Global Community • Technology • Project-based Learning • Leadership • Biotechnology • Challenges • Nanotechnology • Innovation • Collaboration • Success
- Partnerships • Information Technology • Advanced Materials • Math • Science • Authentic Assessment • Global Community • Alternative Energy • Leadership • Regents & Advanced • Regents Diploma
- Biotechnology • Innovation • Collaboration • Success • Authentic Assessment • Future •

# Tech Valley: Growth of the Region Drives School and Shared Promise for the Future

From the invention of the light bulb to the introduction of the nation’s first television station, the region of Upstate New York known as Tech Valley has a distinguished heritage of innovation and technology discovery and development.

Its emergence in the early 21st century as a region of promise and opportunity inspired and motivated the founding of Tech Valley High School, an institution that reflects the innovative, collaborative and creative spirit of the region it serves.

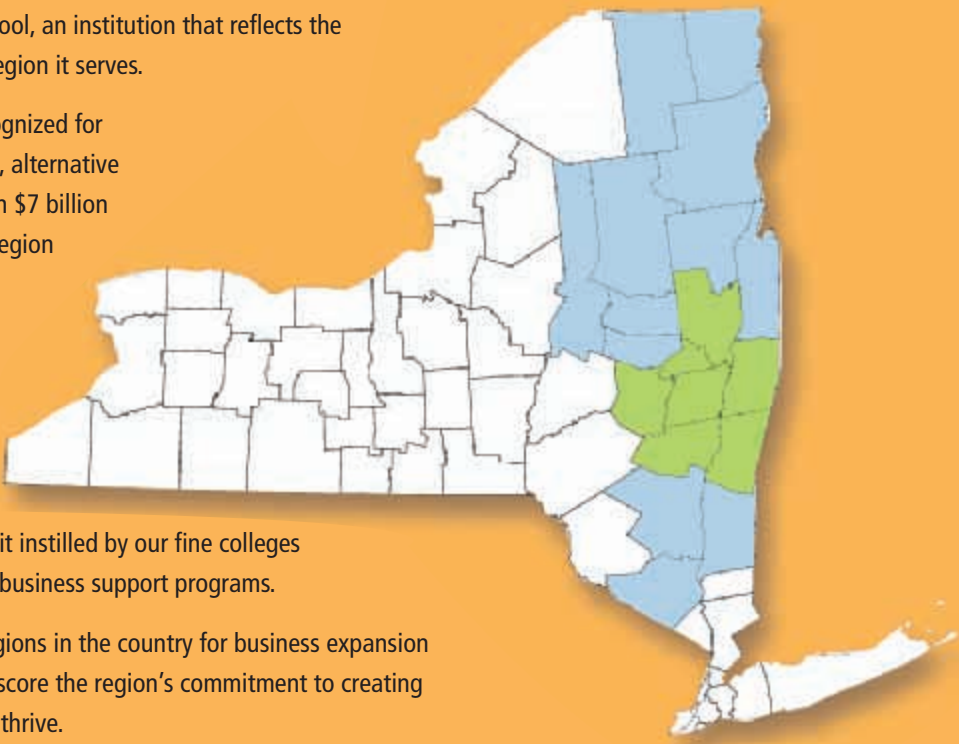
Around the nation and the globe, Tech Valley is recognized for nanotechnology, biotechnology, advanced materials, alternative energy and information technology. With more than \$7 billion in investment from public and private sources, the region is leading the state into a bright economic future.

Global technology leaders IBM, GE and Tokyo Electron have located facilities here and SEMATECH, the microchip research consortium, recently relocated its international headquarters to Albany. Small, innovative firms are thriving here too, fed by the energy and entrepreneurial spirit instilled by our fine colleges and universities and nurtured by our incubator and business support programs.

Tech Valley’s rankings as both one of the hottest regions in the country for business expansion and one of the top 25 regions to do business underscore the region’s commitment to creating an entrepreneurial climate in which companies can thrive.

With more than 32 colleges and universities in Tech Valley, the area is well-positioned to provide the broad range of skills and training needed for the educated and technology-savvy workforce of tomorrow.

The creation of Tech Valley High School is a natural extension of this growth to secondary education, applying a regional perspective and business-education partnership to the significant task of preparing and inspiring young people for the fascinating opportunities that lie ahead.



Counties comprising Tech Valley

Tech Valley High School serves 48 school districts in the seven counties served by Capital Region BOCES and Questar III.

They include: Albany, Columbia, Rensselaer, Schenectady, Schoharie, southern Saratoga and parts of Greene.

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# Welcome to Tech Valley High School: Your Passport to the Future

Dear Parents & Students:

Collaboration. Innovation. Success.

These three principles guide the Tech Valley High School experience, and I would like to extend an enthusiastic invitation for you to consider Tech Valley High. We are committed to the academic success, the personal development and the social well-being of our students.

## Collaboration. Innovation. Success.

Collaboration permeates the culture of Tech Valley High. The thinking and contribution of parents and partners from business, the community, colleges and universities are woven into our fabric. Our curriculum and culture integrate the broad opportunities of Tech Valley into project-based learning. Students benefit from engagement with the region's advancements in nanotechnology, biotechnology, advanced materials, alternative energy and information technology; from the region's cultural resources in art, music and theater; and from its considerable natural resources. These experiences help shape our students' future endeavors in college, in the workplace and in lifelong learning.

Our innovative curriculum involves projects where students and adults engage in mutual learning, and where community and societal needs are in the forefront of education. Our focus at Tech Valley High is on creating a learning community committed to continuous improvement and innovation.

We work together – parents, students, teachers and the community – to focus on meeting these needs so our students can become successful leaders of future generations.

I hope that you will examine these materials and attend one of our information sessions where details about Tech Valley High School will be available. You can also find more information at our Web site: [www.techvalleyhigh.org](http://www.techvalleyhigh.org).

Sincerely,



Daniel F. Liebert  
Principal & Chief Academic Officer



Daniel F. Liebert is the first principal and chief academic officer of Tech Valley High School. With 21 years in public and private education, he has extensive experience in teaching and creating curriculum and professional development programs for teachers as well as extensive knowledge of 21<sup>st</sup> century skills and the New York State learning standards.

In addition to his teaching experience, Mr. Liebert was a research associate at the National Association of State Boards of Education and the Council of Chief State School Officers.

He holds multiple degrees, including a C.A.S. in educational administration from The College of Saint Rose; a master's of education in curriculum and instruction from the University of Maryland; a master's of art in philosophy from Georgetown University; and a bachelor of arts in history from Wichita State University.







## About Tech Valley High School

**TECH VALLEY HIGH SCHOOL** is an innovative regional public high school that is a joint venture of Questar III and Capital Region BOCES to prepare students to participate in the region's growing high-tech economy by engaging them in a unique focus on math, science, technology and 21<sup>st</sup> century skills.

**VISION:** Tech Valley High School serves as a model – in the region, the state and beyond – of innovative public education that is based in strong partnerships and focuses on educating and inspiring students to embrace the increasingly important world of math and science.\*

**MISSION:** Tech Valley High School provides a unique and innovative student-centered educational opportunity, engages students in current emerging technologies and supports the growth and economy of the region.\*

**COLLABORATION:** One of the most unusual elements of the school is that it is being shaped—and will be sustained—through an unprecedented partnership of stakeholders representing K–12 and higher education, business, organized labor and government. This partnership helps assure that the school continues to evolve as the region evolves and remains dynamic and on the cutting-edge.

\* Developed in 2005 by a special committee of the Business Alliance for Tech Valley High School. The committee included stakeholders from K-12 education, business, higher education, organized labor and government.

**SIZE:** When at full-capacity, the school will be a "small school" with up to 400 students in grades 9-12. It draws from the 48 school districts of Questar III and Capital Region BOCES, which serve seven counties, including Albany, Columbia, Rensselaer, Schenectady, Schoharie, southern Saratoga and parts of Greene.

In fall 2007, Tech Valley High School launched with 40 freshmen, located initially at Pitney Bowes Software (formerly MapInfo headquarters) in the Rensselaer Technology Park, Troy. In fall 2008, the school will add up to 40 freshmen. Starting in fall 2009, each incoming freshman class will have up to 100 students. The school is now looking for a permanent location in Rensselaer County along the I-90 corridor.

**INNOVATION:** Innovation pervades the school:

- In teaching and learning which is project-based;
- In the curriculum which is relevant, integrated, active and engaging – and will ideally serve as a model locally and nationally;
- In the opportunity it provides to observe and participate in actual business work environments; and
- In its ability to enrich all schools in the region as a laboratory for teaching methodology and curriculum.

In addition, Tech Valley High School has been selected as part of the New Technology Foundation network of schools, giving the school access to the collective experience and wisdom of a leading-edge network of schools, so it can use best practices – and help develop and refine promising practices, right here in Tech Valley.

**LEARNING:** Students attend for a full day and take all academic subjects within a project-based learning environment that emphasizes an integrated math and science curriculum and focuses on preparing students with the skills to succeed in the region's emerging technologies – biotechnology, nanotechnology, advanced materials, alternative energies and information technology. (Please see page 4 for more details on the unique learning environment of Tech Valley High School.)

**TEACHING:** Team-teaching, cross-curricular projects and/or integrated courses are the hallmarks of all teaching and learning. Partners from area businesses, higher education, organized labor and government assist in developing projects and serve as mentors and field experts for both students and teachers throughout the learning process. Teachers are highly qualified and committed to the project-based learning philosophy. All teachers are certified in the subject areas they instruct, and possess credentials required by New York State.

**UNIQUENESS:** Three aspects make Tech Valley High School unique in New York State:

- Immersion in a real-life, project-based learning environment.
- Curriculum focused on preparing students with skills to support the emerging technologies in New York State's Tech Valley.
- An unprecedented partnership between K-12 educators, higher education, business, organized labor and government.





## Learning at Tech Valley High School

At Tech Valley High School, we are guided by innovation, collaboration and success and are committed to educating students in a new and different learning environment.

This unique environment inspires exploration, discovery and a passion for learning. It allows students to meet graduation requirements in a different way, using project-based learning – real-world projects that connect learning to their course of study – and work in teams of students and adults.

Although Tech Valley High School's academic programs and the day-to-day activities of the students differ in many ways from other schools, students at Tech Valley High School will earn a Regents Diploma or an Advanced Regents Diploma, and the curriculum meets all New York State learning standards.



## What is project-based learning?

Project-based learning brings together intellectual inquiry, rigorous real-world standards and student engagement in relevant and meaningful work. Many schools offer project-based learning experience for their students, but Tech Valley High School is unique because students are thoroughly immersed in it.

One very exciting, and unusual, aspect is Tech Valley High School's unprecedented partnerships with leaders from area businesses, technology companies, higher education, organized labor and government. They were involved in shaping the school, continue to be participants and collaborators in the educational program and are helping develop the project-based learning experiences, in cooperation with educators. (Please see examples of project-based learning on pages 14 and 15.)

## Why project-based learning?

The best starting point for learning is with real, genuine issues of importance to students and communities. Active, concrete experience, driven by the "need to know," is the most powerful form of learning. Adolescents learn best when they encounter intriguing topics and people in real-world situations, and when they are faced with genuine challenges, choices and responsibility for their own learning. Thus at the heart of Tech Valley High School's course of study are real, rich and complex problems and issues that involve learning 21st century skills.

## How does project-based learning offer academic challenge?

Student retention of their learning increases as they have opportunities to work on complex problems beyond repetition and review. Project-based learning (PBL) offers students multiple opportunities to apply their learning in new situations where the answer is not obvious—where students are confronted with challenges that have no clear answers, where they must solve unforeseen problems and meet unpredicted obstacles. PBL requires teachers to cover fewer topics in greater depth with the goal of developing a deep understanding of subject matter that scientists, technology companies and business leaders in Tech Valley say is needed in our high school graduates. Learning at Tech Valley High School requires students to master the subject matter necessary for traditional Regents exams but also requires them to develop the skills to meet the rigorous requirements of working in a technology-rich, intellectually complex and personally challenging world.





## What are the results of learning at Tech Valley High School?

The focus of learning at Tech Valley High School is on helping students achieve the following outcomes:

■ **Collaboration:** Students collaborate with their peers in project teams and with community partners in implementing the projects. They engage in group discussions, support their peers, communicate effectively and demonstrate interpersonal skills. They also make productive contributions to the group and maintain respect for peer and community partners.

■ **Information literacy:** Students locate, gather and evaluate information from diverse sources including print, interviews, numerical data, works of art and other media. They learn to differentiate between reliable and misleading data sources.

■ **Critical thinking:** Students develop and use critical and systems thinking skills to solve problems. When confronted with real-life challenges, they pose questions, process information, understand and apply concepts, and develop solutions.

■ **Innovation:** Students generate new ideas when they address problems, demonstrate the entrepreneurial values of creativity and intellectual curiosity, take intellectual risks and are continually adapting.

■ **Communication:** Students express ideas and views and communicate with reason and confidence. They present and defend their work through oral, written, mathematical, graphic and artistic forms to demonstrate awareness of audiences and purpose. They engage in discourse and exchange ideas and information through effective dialogue with classmates, faculty, parents and community partners.

■ **Citizenship:** Students demonstrate an understanding of the interdependent global community and have cross-cultural skills, including proficiency in non-English languages, awareness of other cultures and experience working with people from diverse backgrounds. They understand the rights and responsibilities





of citizenship including an ethically based sense of social responsibility. In addition, they understand social, political, economic and environmental context and implications of civic decisions.

■ **Content literacy:** Students master the core content at the commencement level as required by New York State. They understand the interconnectedness of the content in the disciplines.

■ **Technology literacy:** Students design, construct, use and evaluate appropriate technology. They are technologically literate and integrate technology seamlessly into their learning, and they have an awareness and understanding of the region's emerging technologies.

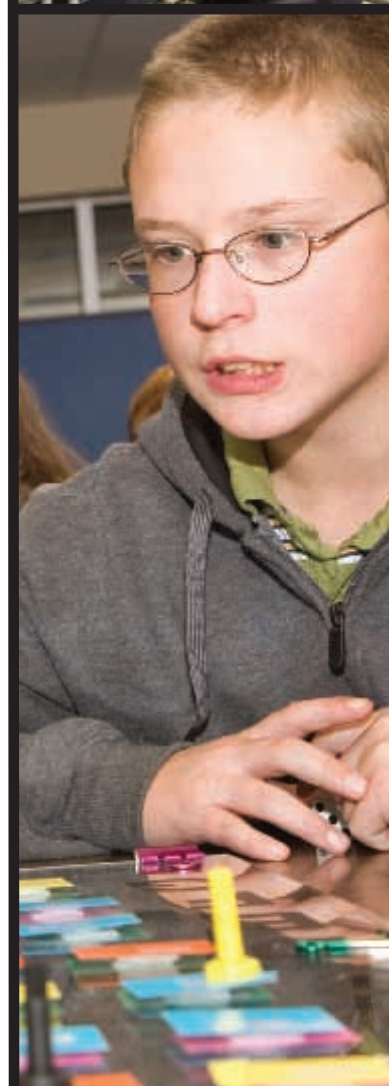
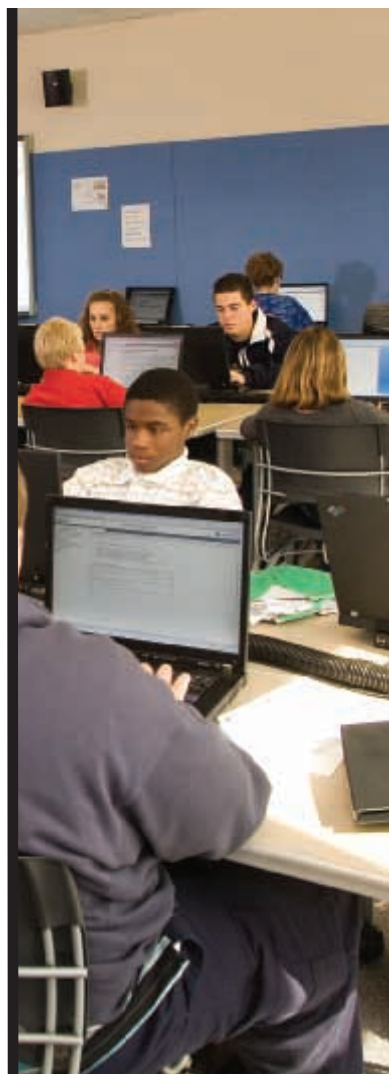
■ **Self direction:** Students are self-directed lifelong learners who are accountable for their choices and take responsibility for their learning. They set goals, create and implement personal learning plans. In addition, they demonstrate the ability to manage resources, adapt to changing circumstances and make personal choices for the benefit of themselves and others.

These learning outcomes are derived from New York State's learning standards, the New Technology Foundation, Tech Valley High School's strategic operating plan and the Partnership for 21st Century Skills.

### What are 21st century skills?

These are the skills students will need to succeed in a global, 21st century environment, including:

- Taking initiative in their learning and becoming "lifelong learners."
- Working successfully on a team.
- Taking responsibility for their work and their learning.
- Confronting and solving unforeseen problems.
- Managing and planning for short- and long-term goals.
- Presenting and defending what they have produced.



### What role does technology play?

It plays an important role in teaching and learning. Students learn both with –and from –technology. There is a 1:1 student-to-networked-computer ratio. Emerging technologies serve as both teaching tools and subjects for development of projects.

### Are physical education classes, sports and extracurricular activities available?

Physical education is integrated into the school week by utilizing local physical fitness facilities, under the constant and coordinated supervision of certified teachers. There are extracurricular activities determined by students' interests. As the school grows, there will be more clubs and extracurricular programs to support the curriculum and respond to students' interests. There are no interscholastic sports teams, and the school schedule makes it difficult to participate in after-school interscholastic sports. Although students are eligible to participate on their district teams, transportation can be an obstacle.



Your  
Passport  
To The  
Future



**Tech Valley High School welcomes your application for the 9th grade class for the 2008-09 school year. We are committed to working towards enrolling a diverse student population that is reflective of the general population within the geographic area served by Questar III and Capital Region BOCES.**

**Please read the following information carefully. It describes what students and parents need to know – the requirements for applicants, the timeline and the deadline for applications. On the next page of this packet is the admissions policy of Tech Valley High School for 2008, as well as information about the lottery that will be conducted to select students if the number of applications received exceeds the number of openings.**

### **Requirements to Apply:**

Please be certain all five requirements are addressed before submitting the application.

- Student must meet with his/her middle school counselor to discuss their application.
- Student must complete the application form, and submit the completed form to the middle school counselor by February 1, 2008.
- Student must currently be enrolled in the 8th grade and on track to meet all requirements for a successful completion of the 8th grade.
- Parents must attend a Parent-Student Information Session. Please see dates, times and locations of the information sessions on page 2.
- Student must attend a Parent-Student Information Session. Please see dates, times and locations of the information sessions on page 2.

## **Important Dates in the Application Process**

### **November 28, 2007**

#### **Applications Available**

Applications will be available at the office of middle school counselors and on our website: [www.techvalleyhigh.org](http://www.techvalleyhigh.org)

### **January 8 – January 29, 2008**

#### **Parent-Student Information Sessions**

Parents and students interested in Tech Valley High School must attend a Parent-Student Information Session. Some sessions will be held at Tech Valley High School. Others will be conducted at locations throughout the region. Dates, times and locations of the information sessions can be found on page 2.

### **February 1, 2008**

#### **Application Deadline for Students**

A completed and signed application must be submitted to the office of the middle school counselor in the student's district of residence.

### **February 8, 2008**

#### **Application Deadline for Schools**

Completed and signed applications must be submitted by 5 p.m. to Tech Valley High School by the middle school counselors.

### **February 28, 2008**

#### **Lottery**

If the number of applications received exceeds the number of openings, a lottery for the freshman class will be conducted at Tech Valley High School.

### **First week of March, 2008**

#### **Acceptances Announced**

The names of the students selected in the lottery will be sent to each school district followed by a letter to the student's parent/guardian. All applicants will be notified of their status.

### **Saturday, April 26, 2008**

#### **New Student-Family**

#### **Orientation: 9:30 – 2:00 p.m.**

This session, to be held at Tech Valley High School, is required for all accepted students and their parents.

# Admissions Policy and Lottery Information

## Admissions Policy

In order to attain a gender-balanced, diverse student population and representation from as many of the school districts located in the area served by Questar III and Capital Region BOCES, the Tech Valley High School admissions process is designed to be seamless and open, reaching out to the school districts and families in the region.

### In order to attract informed applicants who are committed to the school program and philosophy:

- All parents/guardians and students who wish to apply to Tech Valley High School must attend a Parent-Student Information Session.
- Students should meet with their middle school counselor to discuss their interest in attending Tech Valley High School prior to submitting an application.
- Students applying to Tech Valley High School must submit a completed and signed application form.
- And, if chosen, their parents/guardians must sign an "Intent to Attend" form; and parents and students must attend an orientation on Saturday, April 26, 2008, from 9:30 a.m.–2 p.m.

**Admission to Tech Valley High School shall be open to all students on a nondiscriminatory basis, without regard to race, color, national origin, creed, gender, ethnicity, disability or academic achievement.**

## Lottery Information

In order to ensure equity and fairness, Tech Valley High School students will be selected by lottery on February 28, 2008, if the number of applicants exceeds class openings. The procedure for the lottery will be as follows:

1. Completed applications are to be submitted to the middle school counselor in the district of residence by February 1, 2008. The middle school counselor's office is responsible for submitting the completed applications to Tech Valley High School by 5 p.m. on February 8, 2008.
2. If the number of applications received is greater than the number of openings in the freshman class, a lottery will be conducted on February 28, 2008.
3. Only students whose completed applications were received on or before the deadline will be included in the lottery.
4. The lottery will include only students who reside within the regions served by Questar III and Capital Region BOCES.
5. Boys and girls will be drawn from different pools from within each BOCES area to ensure gender equity.
6. The lottery will be held at Tech Valley High School and overseen by the Principal & Chief Academic Officer in conjunction with BOCES officials.
7. Students not selected will be placed on a waiting list.
8. The names of students selected in the lottery will be sent to each school district followed by a letter to the student's parent/guardian. All applicants will be notified of their status.
9. Late applications will be held pending possible openings for current class enrollment.

## 2008 Parent-Student Information Sessions

Date	Place	Address
Tuesday, January 8, 2008, 6-7:30 p.m.	Tech Valley High School	One Global View, Suite 2, Troy, NY 12180
Wednesday, January 9, 2008, 6-7:30 p.m.	Cobleskill Middle School Library	193 Golding Drive, Cobleskill, NY 12043
Tuesday, January 15, 2008, 6-7:30 p.m.	Tech Valley High School	One Global View, Suite 2, Troy, NY 12180
Wednesday, January 16, 2008, 6-7:30 p.m.	Coxsackie-Athens HS Auditorium	24 Sunset Blvd, Coxsackie, NY 12051
Tuesday, January 22, 2008, 6-7:30 p.m.	Tech Valley High School	One Global View, Suite 2, Troy, NY 12180
Wednesday, January 23, 2008, 6-7:30 p.m.	Hudson Middle School Auditorium	102 Harry Howard Avenue, Hudson, NY 12534
Tuesday, January 29, 2008, 6-7:30 p.m.	Scotia-Glenville Middle School Cafeteria	10 Prestige Parkway, Scotia, NY 12302
Wednesday, January 30, 2008, 6-7:30 p.m.	Weather Cancellation Make-up Session	TBA

**All dates accurate as of press time. More dates may be added. Please check [www.techvalleyhigh.org](http://www.techvalleyhigh.org) for the most up-to-date list. In case of inclement weather, cancellations will be posted on [www.techvalleyhigh.org](http://www.techvalleyhigh.org).**





# Student Application for September 2008 (Grade 9)

Please cut here and submit to the office of the middle school counselor in the student's district of residence.

**Please be certain all five requirements below are addressed before submitting the application. Please check off each requirement and include information requested.**

- ☐ Student must complete the application form.
- ☐ Student must currently be enrolled in 8th grade and be on track to meet all requirements for successful completion of the 8th grade.
- ☐ Parents must attend a Parent-Student Information Session. Date attended: \_\_\_\_\_
- ☐ Student must attend a Parent-Student Information Session. Date attended: \_\_\_\_\_
- ☐ Student must meet with their middle school counselor. Date met: \_\_\_\_\_

**Please submit completed and signed application to the middle school counselor in the district of residence by February 1, 2008.**

**Please Type or Print Neatly**

Student's Name: \_\_\_\_\_ Gender: M F Student's Birth Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_  
Last First MI Month Day Year

Student's Place of Birth: \_\_\_\_\_ Student's Home Language: \_\_\_\_\_  
City/State/Country

Student's Current School of Attendance: \_\_\_\_\_ Grade: \_\_\_\_\_

Student's School District of Residence: \_\_\_\_\_

Name of Primary Parent/Guardian: \_\_\_\_\_

Parent's/Guardian's Mailing Address: \_\_\_\_\_  
Street City State Zip Code

Parent's/Guardian's Home Phone Number: \_\_\_\_\_ Parent's/Guardian's Work Phone Number: \_\_\_\_\_

Parent's/Guardian's Cell/Pager Number: \_\_\_\_\_ Parent's/Guardian's E-mail: \_\_\_\_\_

Signed: \_\_\_\_\_ Date: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: \_\_\_\_\_  
Parent/Legal Guardian Student

Print: \_\_\_\_\_ Date: \_\_\_\_\_  
Name, title and school district of authorized school official

Signed: \_\_\_\_\_  
Guidance Counselor, Principal or Superintendent



One Global View, Suite 2  
Troy, N.Y. 12180  
Phone: (518) 862-4960  
Fax: (518) 283-3053  
[www.techvalleyhigh.org](http://www.techvalleyhigh.org)

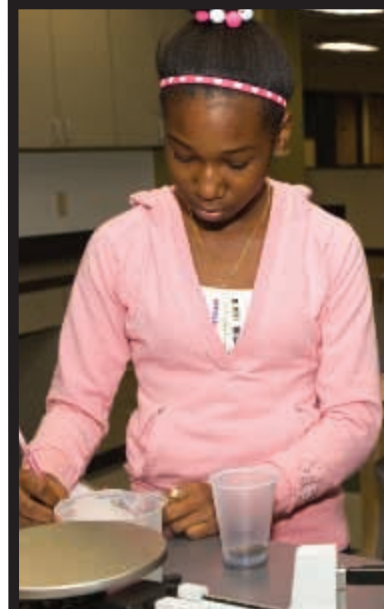


## What else makes Tech Valley High School different?

■ **Advisory time:** Advisory time is scheduled to provide an opportunity for students to develop a close relationship with a consistent group of 10–12 peers and a single teacher. “Advisories” are designed to create a place where each student can be well known by a teacher and where his/her academic and personal growth can be coordinated. They help develop personal and academic skills necessary for success in high school and beyond and provide a teacher who is the main contact for parents or guardians.

■ **Individual investigations:** While project-based learning infuses the curriculum and instruction, it is important for students to have autonomy and responsibility to pursue topics that interest them in a rigorous and independent manner, and then to be held accountable for their work in a public exhibition. Individual investigations, which help students pursue personally meaningful questions, involve demonstrating their individual ability to identify and answer complex and relevant questions as they develop the skills for lifelong learning and self-directed development. Together with their advisor, parents and community partners, students select a topic and then can spend from 2–4 weeks (several hours per day) on their investigation. To be certain that they connect their interests with the New York State learning standards, they work in conjunction with their advisor.

■ **Senior project:** Students are required to complete a self-designed senior project, a long-term investigation that demonstrates their ability to (1) be a self-directed learner, (2) utilize a wide variety of research and methods of investigation and (3) present results in a meaningful way to peers and adults. These projects are driven by students’ interests, their need to demonstrate important skills and input of adults involved in their lives. Senior projects help students engage deeply in a topic they care about and make cross-disciplinary connections with the world outside school. By the time students are seniors, they are able to articulate interests and devise involved plans to pursue those interests and present their learning to a jury of peers and adults.



■ **Partnership with the New Technology Foundation**

**(NTF):** NTF provides a national model of project-based learning in a technology-rich environment. Tech Valley High School is adapting that model in New York State. The partnership allows the school to access the New Tech High Learning System™ to help shape the program and curriculum as well as to NTF's existing data bank of more than 800 projects and best teaching practices.

■ **Community service:** Students are required to complete community service projects to help them connect to the community and learn important skills and ethics. These projects increase in duration and complexity over four years, and students design and complete a significant community service project (approximately 50 hours) and present their work to parents, students, community members and other interested groups.

■ **Grading:** One of NTF's important components is the New Tech High Learning System™, which Tech Valley High School uses. It allows the reporting of more than just a number or letter grade as well as assessments (evaluations) of work ethic, core content knowledge, collaboration, presentation skills, written work and critical thinking. These reports allow a full understanding of students' strengths and weaknesses and give parents and teachers guidance in how to tailor each student's academic program. While overall averages are reported, assessment is ongoing and cumulative. Schools using this method have reported significant success in helping students develop 21st century skills as well as in preparing students for college and work. (Please see [www.newtechfoundation.org](http://www.newtechfoundation.org))

■ **College credits:** Earning college credits is required. Articulation agreements are being developed with colleges and universities throughout Tech Valley.





# Meeting New York State's Educational Requirements

To meet New York State's educational requirements, students must earn 23 credits, listed in the blue box below. Each student's coursework will vary depending on his/her interests, the college credits he/she takes and his/her post-secondary plans. And many classes will involve integrating two or three courses through project-based experiences.

At Tech Valley High School, students will meet NYS learning requirements—like at all other public high schools in the region.

- Students will meet all New York State learning standards.
- Students will earn at least 23 credits.
- Students will earn a Regents Diploma or Advanced Regents Diploma.

## Year #1 (7 credits)

Environmental Science	(1.0)
Integrated Algebra	(1.0)
Global History & Geography	(1.0)
English	(1.0)
Foreign Language	(1.0)
Technology (Integrated Multimedia Computer Skills)	(0.5)
Art	(1.0)
Physical Education	(0.5)

In New York State all students must complete 1 fine arts unit for graduation.

**Required Regents Exam:**  
Integrated Algebra

## Year #2 (7 credits)

Living Environment (biology)	(1.0)
Geometry	(1.0)
Global History & Geography	(1.0)
English	(1.0)
Foreign Language	(1.0)
Technology (Integrated Multimedia Computer Skills)	(0.5)
Elective	(1.0)
Physical Education	(0.5)

**Required Regents Exam:**  
Living Environment, Geometry, Global History & Geography.

**Advanced Exam:** Some students may be advised throughout the year to prepare for an additional advanced exam, such as an AP course or an on-line college course, or to take a college course. This could involve a combination of on-line and on-site coursework to meet students' individual needs.

## Year #3 (6-7 credits)

Chemistry	(1.0)
Algebra 2 & Trigonometry	(1.0)
U.S. History & Government	(1.0)
English	(1.0)
Foreign Language	(1.0)
Physical Education	(0.5)
Elective	(1.0)

### Required Regents Exam:

Comprehensive Exam in Chemistry, Algebra 2 & Trigonometry, U.S. History & Government, English, Foreign Language.

**College Credit:** All students will obtain 6-12 hours of college credit prior to graduation. Some students may choose to complete these credits in their junior year.

**Advanced Exam:** Depending on the needs of students, some may be preparing for an additional advanced exam, such as an AP course or on-line college course, or to take a college course in the sciences, mathematics or humanities.

This could involve a combination of on-line and on-site coursework to meet students' individual needs.

## Year #4 (5-7 credits)

Mathematics	(1.0)
Physics	(1.0)
English	(1.0)
Participation in Government	(0.5)
Economics	(0.5)
Physical Education	(0.5)
Elective	(1.0)

**College Credit:** All students will obtain 6-12 hours of college credit prior to graduation. Some students may choose to complete these credits in their senior year.

At Tech Valley High School, students meet NYS learning requirements—in a different learning environment.

- Immersion in project-based learning
- Projects that address real-world issues and pose genuine challenges for the local community
- Projects designed in collaboration with educators and business and technology experts from the region
- Classes taught in collaboration with scientists and business experts
- Many opportunities for self- and team-directed learning
- Literacy skills taught across the curriculum
- Opportunities for students to pursue topics of personal interest
- Highly attuned to 21st century skills
- Emphasis on integrated, multi-disciplinary math and science coursework focusing on preparing students with skills to support the region's emerging technologies
- Small classes
- 1:1 student-to-networked-computer ratio allowing students to learn both with, and from, technology
- Assessments that require students to explain and defend their work, and provide them with meaningful feedback
- Earning college credit a requirement
- Individual student learning teams to support students throughout their high school experience





## A Freshman's Week at Tech Valley High School

	Monday	Tuesday	Wednesday	Thursday	Friday
8-8:30 a.m.	Flex time	Flex time	Flex time	Flex time	Flex time
8:30-10:20 a.m.	Environmental Analysis	Global Analysis & Media Explorations (G.A.M.E)	Environmental Analysis	Global Analysis & Media Explorations (G.A.M.E.)	Environmental Analysis
10:20 a.m.-noon	Chinese	Art or physical education	Chinese	Art or physical education	Physical education
Noon-12:30 p.m.	Advisory	Advisory	Advisory	Advisory	
12:30-1 p.m.	Lunch	Lunch	Lunch	Lunch	Lunch
1-2:30 p.m.	Global Analysis & Media Explorations (G.A.M.E)	Environmental Analysis	Global Analysis & Media Explorations (G.A.M.E.)	Environmental Analysis	Global Analysis & Media Explorations (G.A.M.E.)
2:30-3 p.m.	Sustained silent reading	Sustained silent reading	Sustained silent reading	Sustained silent reading	Sustained silent reading

# Project-based Learning

■ **Environmental Analysis:** This class integrates the teaching of **mathematics** and **science** utilizing real-world examples and interdisciplinary projects. Students acquire core knowledge in math and science while responding to real-world challenges. This course results in credit for Integrated Algebra (1 credit) and Environmental Science (1 credit).

■ **Global Analysis & Media Explorations (G.A.M.E.):** This class integrates the teaching of **social studies** (New York State "Global History and Geography") and **English**. It develops the capability to utilize a wide variety of expressive means: writing, speaking and media communications (radio and simple film-making). It results in credit for social studies (1 credit) and English (1 credit).

■ **Chinese:** This class teaches the fundamentals of reading, writing, speaking and listening to **Mandarin Chinese**. Class work is integrated with social studies and art topics and utilizes native speakers from the business community. An emphasis on cultural understanding and current issues facing China and the world are integral to the course.

■ **Art:** The study of **art** is integrated with topics in social studies, English, math, science and foreign language. For example, the teaching and use of digital photography greatly enhances the ability of students to convey the results of project investigations to a greater audience.

■ **Physical education:** **Physical education** is focused on the development of lifelong physical fitness and health. It is integrated into the school week by utilizing local physical fitness facilities under the constant and coordinated supervision of certified teachers. Physical education focuses on developing personal fitness goals to improve basic stamina, flexibility and strength.

■ **Sustained silent reading (SSR):** This period of uninterrupted silent **reading** is based upon a single simple principle: reading is a skill. And like all skills, the more it is practiced with expert guidance, the more it improves. SSR strengthens general background knowledge, vocabulary, writing skills, communication skills and academic performance. This is an important part of the school day.

■ **Advisory:** Advisory time is scheduled to provide an opportunity for students to develop a close relationship with a consistent group of 10–12 peers and a single teacher. "Advisories" are designed to create a place where each student can be well known by a teacher and where his/her academic and personal growth can be coordinated. They help develop personal and academic skills necessary for success in high school and beyond and provide a teacher who is the main contact for parents or guardians.





# Project-Based Learning in Action at Tech Valley High School



## Probing the Hudson

**THE CHALLENGE:** The Hudson River estuary is ecologically significant, and over the past 40 years, citizens, government, businesses and non-profit agencies have worked hard to transform the river from a polluted waterway to one suitable for recreation and wildlife. The goal of New York State is to improve the water quality further so that by 2009 the entire river is safe for swimming. Are the Hudson River water quality parameters improving at great enough rates to reach this goal?

**ABOUT THE PROJECT:** Over four weeks, students work in small teams to develop a river analysis plan, conduct field research, investigate data collected by scientists in previous years and publish a report of their findings.

**INTEGRATING NYS LEARNING STANDARDS & KEY IDEAS:** This project integrates Mathematics, Science and Technology (MST) Standards.

- MST Standard 1: Analysis, Inquiry and Design – students use scientific inquiry to pose questions, seek answers and develop solutions.
- MST Standard 2: Information Systems – students access, generate, process and transfer information using appropriate technologies.
- MST Standard 3: Mathematics – students become mathematically confident by applying mathematics in real-world settings.
- MST Standard 7: Interdisciplinary Problem-Solving – students apply mathematics, science and technology to address real-life problems.

**BEYOND NYS STANDARDS:** The project goes beyond New York State standards to get at the heart of how technology is actually being used to address significant issues in the real world. In conjunction with environmental engineers, students design probes to monitor physical, biological and chemical parameters on the river in real time.

**BUSINESS PARTNERS & EMERGING TECHNOLOGIES:** This project is designed, taught and evaluated in conjunction with experts from the Beacon Institute Center for Advanced Environmental Technology (CAET), Hudson Basin River Watch and the New York State Department of Environmental Conservation.

**IT TOOLS FOR PROJECT PLANNING & COMPLETION:** Assignments are contained in a “project briefcase” (digital portfolios of all project materials) and are accessible to students and parents at all times. These portfolios include project calendars, important dates and deadlines, readings, assessment rubrics, student “contracts” for behavior and performance, and timelines for completion.

The New Tech High Learning System™ and a 1:1 student-to-laptop computer ratio allows students to track their progress, complete assignments and review evaluations in real time.

**REAL-WORLD ASSESSMENT:** The final project assessments include student presentations of findings and recommendations to a panel of adults, including parents, teachers and experts in environmental science. Students defend their results and answer questions to determine their ability to explain what they know. They are also evaluated on how well they are making progress toward achieving 21st century skills.

**REAL-WORLD IMPLICATIONS:** Students share their research and recommendations with local decision-makers as part of the public dialogue on the best next steps to improve the Hudson River.





# Project-Based Learning in Action at Tech Valley High School

## Exploring Post-Modern River Cities

**THE CHALLENGE:** WAMC Northeast Public Radio, a public radio station in the Northeast based in Albany, and serving a wide regional audience, has invited students to participate in a panel of local community experts to discuss how to create sustainable change in cities. As questions arise about what sustainable change means to cities struggling to become economically vital, students address issues that demand a critical look at how the socio-cultural, geographic, political and commercial history and development of Troy affect its ability to model the concept of new urbanism thriving in dozens of cities across the U.S.

**ABOUT THE PROJECT:** Over five weeks, students create a proposal for sustainable change for Troy. Their proposals, rooted in a particular category of municipal change, must reflect an awareness of the history, economics and politics surrounding related issues, and account for the reasons why post-industrial cities sometimes suffer economic decline. What assets does Troy have that can move it forward in the current social-political landscape? Students' written proposals prepare them to contribute meaningfully to a discussion involving Troy-area revitalization professionals that will be broadcast on WAMC's afternoon program "Speaker's Corner." To prepare for this discussion, students meet with key facilitators of re-urbanization efforts, including the mayor of Troy, local experts in history and culture, and community organizations.

**INTEGRATING NYS LEARNING STANDARDS & KEY IDEAS:** This project integrates English Language Arts (ELA) Standards and Social Studies Standards.

- ELA Standard 1: Language for Information and Understanding — students listen, speak, read and write for information and understanding.
- ELA Standard 3: Language for Critical Analysis and Evaluation — as listeners and readers, students analyze experiences, ideas, information and issues presented by others using a variety of established criteria.
- ELA Standard 4: Language for Social Interaction — students use oral and written language for effective social communication with a wide variety of people to enrich their understanding of people and their views.
- Social Studies Standard 3: Geography — students use a variety of intellectual skills to demonstrate their understanding of the interdependent world in which we live — local, national and global — including the distribution of people, places and environments.
- Social Studies Standard 5: Civics, Citizenship, and Government — students use a variety of intellectual skills to demonstrate their understanding of the roles, rights and responsibilities of citizenship, including avenues of participation.

**BEYOND NYS STANDARDS:** This project goes beyond New York State standards as students interact with urban revitalization professionals to examine ways that a city identifies social and economic issues affecting its future and engages a broad public to develop sustainable economic planning for its future.

**BUSINESS PARTNERS & EMERGING TECHNOLOGIES:** Students draw on the expertise of professionals from the Business Alliance for Tech Valley High School, some of whose work directly involves the commercial and business growth of Rensselaer County, to gather information about Troy's current plans and programs. Students are involved in considering the implications of new technologies on cities such as Troy.

**IT TOOLS FOR PROJECT PLANNING & COMPLETION:** Assignments are contained in a "project briefcase" (digital portfolios of all project materials) and are accessible to students and parents at all times. These portfolios include project calendars, important dates and deadlines, readings, assessment rubrics, student "contracts" for behavior and performance, and timelines for completion.

**REAL-WORLD ASSESSMENT:** The final project assessments include student participation in a panel discussion recorded for public radio, to be aired for a wide regional audience. Students interact with area professionals ("experts" on the topic of urban revitalization) in discussing ways to invigorate the local economy and boost the social infrastructure of Troy.

**REAL-WORLD IMPLICATIONS:** Students propose ideas for sustainable change and debate the feasibility of these ideas with professionals involved in city renewal. They become active citizens during this project as they address problems that confront a nearby municipality.

# Are You a Good Candidate for Tech Valley High School and All It Has to Offer?

**Tech Valley High School is seeking students who are:**

- Ready for a challenge
- Open-minded
- Curious and willing to explore their creativity
- Willing to work in collaboration with others
- Ready to pursue a new opportunity
- Likely to thrive in an environment that is diverse with a broad range of viewpoints and experiences
- Ready to learn by doing and interested in real-life learning experiences
- Interested in preparing for a job, college, a career, lifelong learning
- Curious about discovering what Tech Valley and the world have to offer
- Prepared to be "under the microscope," with frequent visits by the many people interested in this new school
- Open and motivated to share his/her learning experience with all those interested in the new school
- Ready to meet the future head-on today
- Ready to take responsibility for one's own learning and the learning of others in a rigorous academic program

The curriculum at Tech Valley High School is deeply enriched by the school's connection to area businesses and institutions of higher education working on the cutting edge of science, math and technology. Students should be open to a learning experience in which these subjects will play an integral role.

**The Tech Valley High School experience helps students become:**

- Self-directed
- Committed to hard work
- Effective member on a working team
- Excited about striving toward high expectations
- Responsive to the notions of leadership and non-traditional thinking
- Interested in the world around them and in the emerging global community
- Prepared to use computers every day for creating presentations, doing research, completing assignments and communicating
- Mature enough to work cooperatively with adults
- Flexible and prepared to work with other students, teachers, Tech Valley entrepreneurs and business leaders, colleges, universities and the community
- Interested in taking ownership of the school and their learning

Students who are ready to take advantage of this unique opportunity are encouraged to apply.

If you would like to hear more about this unique opportunity and what it can mean for a child's future, we will be holding Parent-Student Information Sessions. Dates and times of the information sessions will be posted on the website [www.techvalleyhigh.org](http://www.techvalleyhigh.org) and will be available at the office of your middle school counselor or superintendent.

We look forward to meeting you at Tech Valley High School, Your Passport to the Future.



For more information  
about Tech Valley High  
School, please visit our  
website at  
[www.techvalleyhigh.org](http://www.techvalleyhigh.org)  
or call 518.862.4960





## YOUR PASSPORT TO THE FUTURE

- Innovation • Collaboration • Success • Global Community • Technology • Project-based Learning
- Leadership • Biotechnology • Challenges • Nanotechnology • Innovation • Collaboration • Success
- Partnerships • Information Technology • Advanced Materials • Math • Science • Authentic Assessment •
- Global Community • Alternative Energy • Leadership • Regents & Advanced • Regents Diploma
- Biotechnology • Innovation • Collaboration • Success • Authentic Assessment • Future •



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