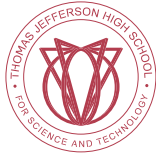


2013–2014 Profile

Thomas Jefferson High School for Science and Technology



Evan Glazer, Principal

Brandon Kosatka, Director of Student Services

Thomas Jefferson High School for Science and Technology (TJHSST) is the product of a partnership forged between the business community and Fairfax County Public Schools to improve education in science, mathematics, and technology. This unique Fairfax County Public School offers a comprehensive program that focuses on scientific, mathematical, and technological fields. The core skills and values infused throughout the curriculum emphasize and promote critical inquiry and research, problem solving skills, intellectual curiosity, and social responsibility. As the regional magnet Governor's School for Science and Technology in Northern Virginia, the school serves applicants from six different participating school districts: Arlington, Fairfax, Loudoun, and Prince William counties, as well as the cities of Fairfax and Falls Church. Of the 455 students in the Class of 2014, 132 are National Merit Semi-Finalists, four are National Achievement Semi-Finalists, eight are National Hispanic Scholars, and an additional 192 are National Merit Commended students.

Admissions

With approximately 480 students in each class and through a competitive admissions process that selects students based upon their demonstrated aptitude and passion for studies in the scientific, mathematical, and technological fields, the TJ Admissions Office evaluates and considers prospective students' admission test scores, academic achievement, personal essays, and teacher recommendations. Applications are reviewed by independent selection committees composed of school administrators, counselors, and teachers from schools within the participating school districts.

Each year, approximately 480 students are offered admission to the incoming 9th grade class. The enrollment for the 2013-2014 school year is 1844.

The Class of 2017 admissions cycle offered enrollment to approximately 15.4 percent of all applicants.

Currently, our grade level distribution and enrollment are as follows:

9th Grade	(Class of 2017) - 476 Students
10th Grade	(Class of 2016) - 476 Students
11th Grade	(Class of 2015) - 437 Students
12th Grade	(Class of 2014) - 455 Students

Student Research

Since its very first graduating class in 1985, student research has played an essential role in learning at TJHSST. Requirements for the Thomas Jefferson High School Diploma include the completion of an original engineering or experimental research project in an on-campus laboratory or off-site through a Mentorship program at a government, corporate, or university research laboratory.

Jefferson's 13 science and technology research laboratories include:

- Astronomy and Astrophysics
- Automation and Robotics
- Biotechnology
- Chemical Analysis and Nanochemistry
- Communication Systems
- Computer Assisted Design
- Computer Systems
- Energy Systems
- Microelectronics
- Neuroscience
- Oceanography/Geophysical Systems
- Quantum Physics and Optics
- Prototyping and Engineering Materials

Selected outstanding research projects are published in TJHSST's annual student-produced research journal, **TEKNOS**, which has won numerous national awards.

Unique Mission & Beliefs

Mission Statement

The mission of Thomas Jefferson High School for Science and Technology is to provide students a challenging learning environment focused on math, science, and technology, to inspire joy at the prospect of discovery, and to foster a culture of innovation based on ethical behavior and the shared interests of humanity.

Beliefs Statement

At Thomas Jefferson High School for Science and Technology, we believe:

1. Critical thinking and problem solving skills are vital in addressing the complex societal and ethical issues of our time.
2. Students learn best in a community where academic disciplines are integrated, fostering an appreciation of how they interact and form a whole.
3. Global interdependence compels us to understand the languages, systems and diverse cultures of people throughout the world.
4. Literature, music and the arts are essential, timeless aspects of human existence.
5. The methods of science provide discipline to our search for structure in the world.
6. Research stems from a combination of fundamental knowledge, individual creativity and curiosity.
7. Effective communication is often the only difference between a good idea and a successful initiative.
8. Collaborative learning, athletics, and extracurricular activities develop leadership and interpersonal skills.
9. Responsibility and integrity are core principles in the pursuit of excellence.
10. Learning never ends.

Mentorship Program

Students in the mentorship program are involved in research and/or project development at various mentoring agencies, including corporate, university, and government institutions, throughout the metropolitan Washington D.C. area. Students are supervised by mentors who are accomplished scientists, engineers and other technical professionals working at these agencies. The mentorship program provides an alternative way for dedicated students to fulfill their required senior research project. Scientific laboratory mentorships are often comparable to university undergraduate research courses.

Mentoring agencies that support the TJHSST mentorship program include: Children's National Medical Center, The National Institutes of Health, Walter Reed Army Institute of Research, The MITRE Corporation, Naval Research Laboratory, Northrop Grumman, George Mason University, Georgetown University Medical Center, Georgetown University, George Washington University, Orbital Sciences Corporation, The Smithsonian Institution, InScope International, CH2M HILL, University of Maryland College Park, National Geospatial Intelligence Agency, Research Innovations, Defense Advanced Research Projects Agency.

Embedded Activities Period

In addition to the seven academic periods, students are required to participate in an activities period that is included in the instructional day. Affectionately referred to as "8th period", this additional class period of the day affords students the ability to seek out academic support and/or enrichment while also providing them the opportunity to participate in any of the over 150 clubs and activities pertaining to (but not limited to) diversity, academic competition, outreach, service, and more.

Accelerated Curriculum

All courses are taught at the gifted, honors, AP, or post-AP level.

The rigorous college preparatory curriculum provides students with the opportunity to achieve in all disciplines, with an emphasis on the sciences and the technology of applied sciences. All students are required to work toward a 26 credit "TJ Diploma" that parallels the Virginia state requirements for its Advanced Studies Diploma of 26 credits.



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A GOVERNOR'S REGIONAL SCHOOL FOR SCIENCE AND TECHNOLOGY

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English	4
Mathematics (<i>not including Algebra 1; AP Calculus required</i>)	4
Science (<i>Biology, Chemistry, Physics, and Geosystems</i>)	4
Social Studies	4
Foreign Language (<i>in the same language</i>)	3
Health and Physical Education	2
Fine/Practical Arts/Cultural Studies	2
Science/Technology Research	1
Computer Science	1
Additional Mathematics, Science, or Technology	1
Total	26 credits

ADVANCED PLACEMENT AND BEYOND

Advanced Placement courses offered:

English Lit/Lang	Biology	Chinese
U.S. Government	Chemistry	Japanese
United States History	Psychology	German
Computer Science A	Spanish Lit/Lang	Russian
European History	French Lang	Statistics
Calculus AB & BC	Latin Vergil	Physics C
Music Theory	Studio Art	

****In 2013, 3767 AP Exams were taken by TJ students; over 96% earned a score of 3, 4, or 5.**

Post-Advanced Placement courses offered (courses that have AP courses as a pre-requisite):

Multivariable Calculus	Advanced Math Techniques
Linear Algebra	Artificial Intelligence 1 & 2
Differential Equations	Intro to Organic Chemistry
Complex Variables	Neurobiology
Numerical Analysis	Parallel Computing 1 & 2
	Electrodynamics

Grading Scale

"Excellent"	A	93 – 100 (4.0)
	A-	90 – 92 (3.7)
"Above Average"	B+	87 – 89 (3.3)
	B	83 – 86 (3.0)
"Average"	B-	80 – 82 (2.7)
	C+	77 – 79 (2.3)
"Below Average"	C	73 – 76 (2.0)
"Failure"	C-	70 – 72 (1.7)
	D+	67 – 69 (1.3)
	D	64 – 66 (1.0)
	F	below 64 (0.0)

Weighting:

- Honors courses are weighted with an additional 0.50 quality points.
- AP Courses receive an additional 1.0 weight for year-long courses.
- Selected post-AP courses (semester courses that require completion of an AP course prior to enrolling) receive additional weighting as well.

Class Rank

Class rank is not computed or estimated at TJHSST. The Class of 2013 Final Grade Point Averages ranged from 3.466 to 4.578.

SAT Scores (Class of 2013)

	Mathematics	Critical Reading	Writing
TJHSST	756	723	715
FCPS	568	554	541
VIRGINIA	511	512	494
NATIONAL	503	491	480

Class of 2013 College Acceptance Data

99 percent of the Class of 2013 were accepted to and are attending a four-year college or university.

(Listing reflects schools where ten or more students were accepted).

College	Accepted
University of Virginia	195
College of William and Mary	190
Virginia Polytechnic Institute and State University	104
George Mason University	57
Virginia Commonwealth University	40
Cornell University	37
University of Michigan	31
Carnegie Mellon University	29
Georgia Institute of Technology	29
University of Illinois at Urbana-Champaign	29
University of Maryland, College Park	27
University of Pittsburgh	25
Drexel University	24
James Madison University	23
Pennsylvania State University, University Park	22
Case Western Reserve University	20
Washington University in St. Louis	19
Princeton University	18
Rensselaer Polytechnic Institute	17
Duke University	16
Purdue University	15
The University of North Carolina at Chapel Hill	15
Vanderbilt University	15
Massachusetts Institute of Technology	12
University of California at Berkeley	12
California Institute of Technology	11
Georgetown University	11
Brown University	10
Dartmouth College	10
Rice University	10
Rochester Institute of Technology	10
The George Washington University	10

Fairfax County Public Schools and TJHSST are accredited by the State Board of Education and the Southern Association of Colleges and Schools.