



Brooklyn Technical High School

TECH
2023
PROFILE

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Brooklyn Technical High School is the nation's largest specialized public high school for science, technology, engineering and mathematics. Housed in a physical plant reborn for the 21st century, the school is a national model for excellence. Recognized as a Blue Ribbon School, a New American High School, a Project Lead The Way Model High School, and an Intel School of Distinction in Science, Brooklyn Tech is also annually recognized in both US News and Newsweek as a Gold Medal School and is currently ranked the 46th best high school in the country. In addition, Brooklyn Tech placed 3rd in the nation in the Niche Standout High School rankings which ranks schools with at least 50% of students identified as economically disadvantaged.

Tech has a stimulating environment that fosters transformational education and personal growth in classrooms and labs which are on par with university and industry standards. With modern technology at its core, Brooklyn Tech serves as a vibrant intellectual arena for faculty and students to explore and embrace the ideas, technology and instructional methods that will shape the future.

All of the 6,000 students attending Brooklyn Tech reside in the five boroughs of New York City. The majority of the students are multi-lingual and over 61% are entitled to free or reduced lunch. Brooklyn Tech has 279 full time faculty members. 91% of the faculty currently hold advanced degrees and 13% hold terminal degrees.

DISTINGUISHING FEATURES

Admissions - Students interested in attending Brooklyn Tech must take the Specialized High Schools Admissions Test (SHSAT) administered by the New York City Department of Education. A student receives an offer to Tech based solely on his/her test score, how he/she ranked the school among the other specialized high schools, and seat availability. On average, approximately 30,000 8th and 9th graders take the test each year with between 1,450 and 1,600 being admitted into the incoming cohort.

Alumni Foundation - A unique feature of Brooklyn Tech is its strong alumni network, with over 55,000 stakeholders in our school. Brooklyn Tech has a strategic partnership with the Foundation which provides administrative support for internships, mentorships, Career Day, Recent Alumni Day, Ruby Engineers (for young women's leadership), and a significant annual Homecoming event. The Foundation also generously supports (both financially and experientially) teacher professional development, new programs and initiatives, enhanced instructional programs for students, facilities improvements and renovations, and technology upgrades.

Project Lead the Way (Engineering) – a world-class, activity driven, project and problem based curriculum in STEM fields crafted by teams of industry professionals and collegiate faculty. College credit is granted through a consortium of state specific institutions (Rochester Institute of Technology in NY) based on cumulative performance and achievement on the final exams.

Weston Research Scholars Program – provides gifted students with a three-year opportunity to participate in the creation of new knowledge through scientific investigation at graduate and post-graduate levels. It is unique in its structure incorporating an internal mentor model consisting of Brooklyn Tech teachers with research experience, a summer institute to prepare students, student research teams, on-going activities through the academic year and summer and external mentors at colleges, universities and research facilities.

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Consistent with the National Consortium of Secondary STEM Schools, BTHS does not rank students except to determine the Valedictorian (highest weighted GPA) and Salutatorian (second highest weighted GPA). Courses worth college credit through Advanced Placement or formal articulation agreements with colleges and/or universities are weighted at 1.1 only in the cumulative GPA; actual transcript course grades are not weighted at all.

DIPLOMA REQUIREMENTS

NY REGENTS DIPLOMA	44 Credits including: (6) Science, (6) Math, (8) ELA, (8) Social Studies, (2) World Language, (2) Music/Art, (4) Physical Education, (1) Health Education, (7) Electives; 4+1 NYSED Regents Examinations
NY ADVANCED REGENTS DIPLOMA	NY Regents Diploma + (4) additional credits in World Languages and additional Regents in Geometry, Algebra II/Trig, World Language, Science.
BTHS DIPLOMA	NY Advanced Regents Diploma + Design & Drawing for Production, AP Principles of Computer Science, Chemistry & Physics (including Regents exams), “Major” Courses, 50 hours community service, 32 points in school service.

SCIENCES

<u>Biology</u>	<u>Chemistry</u>	<u>Physics</u>
Regents Living Environment	Regents Chemistry	Regents Physics
AP Environmental Science*	AP Chemistry*	Astronomy
AP Psychology*	Organic Chemistry*	AP Physics I*
AP Biology*	Modern Instrumental Chemical Analysis*	AP Physics II*
Anatomy & Physiology*	Quantitative Analysis*	AP Physics C*
Genetics*	Introduction to Chemical Engineering*	Modern Physics*

MATHEMATICS

Algebra I	AP Statistics*	Linear Algebra*	Math Research
Geometry	AP Calculus AB*	Computational Modeling*	Freshman Math Team
Algebra II	AP Calculus BC*	Advanced Euclidean Geometry	JV Math Team
Pre-Calculus	Multivariable Calculus*	Combinatorics	Varsity Math Team

ENGINEERING & COMPUTER SCIENCE

<u>Project Lead The Way</u>	<u>Computer Science</u>		
Aerospace Engineering*	AP Principles of Computer Science*	Structural Design / Statics	
Computer Integrated Manufacturing*	AP Java*	Green Building Construction	
Principles of Engineering*	Web Development	Digital Systems Design*	
Digital Electronics*	Oracle I & II	Mechatronics	
Civil Engineering & Architecture*	Oracle III & IV	Robotics Engineering	

THE ARTS

PLTW Design & Drawing for Production*	Adobe Visual Design & Print	Intermediate Band	Intermediate Orchestra
Autocad	Adobe Digital Video	Advanced Band	Orchestra
Architectural Drawing I & II	MAYA Digital Animation	Jazz Band	Intermediate Chorus
Introduction to Fabrication	Stageworks: Set Design	Concert Band	Girls Chorus
Advanced Digital Modeling	Stageworks: Sound Systems	Basic Strings	Mixed Chorus
Product Design	Stageworks: Lighting Design	String Orchestra	Chamber Chorus

ENGLISH LANGUAGE ARTS

Freshmen Composition I & II	Life, Love, & Death	AP English Capstone Seminar*	Creative Writing
British Literature	Gothic Literature	AP English Capstone Research*	Drama
World Literature	Short Stories	AP English AP Language & Comp.*	Journalism
American Literature I & II	Science Fiction & Fantasy Literature	AP English Literature*	Yearbook

SOCIAL STUDIES

Global History I & II	AP Human Geography*	AP Macroeconomics*	Criminal Law
Global History I & II: Big History	AP World History*	AP Microeconomics*	Criminal Procedure
Global History III & IV	AP European History*	Sociology	Civil Law
United States History I & II	AP United States History*	Cultural Anthropology	Constitutional Law
United States Government	AP United States Government*	Physical Anthropology	Legal Ethics
Economics	AP Comparative Government*		

WORLD LANGUAGES

Italian I	French I	Mandarin I	Spanish I
Italian II	French II	Mandarin II	Spanish II
Italian III	French III	Mandarin III	Spanish III
AP Italian*	AP French Language*	AP Mandarin*	AP Spanish Language*

HEALTH & PHYSICAL EDUCATION

9th Grade Physical Education	Fencing	Beginner Swim	Judo
10th Grade Physical Education	Yoga	Advanced Swim: Lifeguard Cert.	Capoeira
11th Grade Physical Education	Weight Training	Independent PE (Non-PSAL Sports)	Health

OTHER CREDIT BEARING COURSES

Weston Scholars Research I & II	Independent Study: Internship	Independent Study: College Course
Weston Scholars Research III & IV	Independent Study: Accredited Online	Hospital Instruction
Weston Scholars Research: Capstone	Independent Study: Project Based	Home Instruction

* Denotes college credit bearing or post AP level course. Actual grade earned on transcript with 1.1 weight factored in **cumulative** average only.

THE BTHS INSTRUCTIONAL MODEL

Ninth and Tenth Grades: The mandated 9th grade Design & Drawing for Production class, which satisfies the New York State Arts requirement for graduation, is a foundation course through Project Lead The Way that immerses students in the design process from brainstorming to prototyping through 3D printing. Students use industry standard 3D modeling software (Autodesk Inventor) to complete both individual and team oriented projects honing student communication skills in graphic form with an equal emphasis on oral presentation. During 10th grade, all students are mandated to take AP Principles of Computer Science. During the spring semester of the tenth grade, students must participate in the “Major Selection Process” which enables them to list each major in order of preference from a set of 18 options. Placement in a major is based on a combination of student preference and prior academic performance.

Eleventh and Twelfth Grades: Majors include at least **2** periods of instruction junior year and at least **3** periods of instruction senior year. The 18 Majors are: Aerospace Engineering; Architectural Engineering, Biological Sciences, Chemical Engineering, Civil Engineering, Electrical Engineering, Environmental Science, Finance, Gateway to Medicine, Industrial Design, Law and Society, LIU Health Professions, LIU Pharmacy, Mathematics, Mechatronics, Digital Media, Physics, Social Science Research, and Software Engineering.

Career and Technical Education Endorsement – Students in the Media, Civil, Architecture, Aerospace Engineering, Industrial Design, Electrical Engineering and Mechatronics majors are eligible to receive a CTE Endorsed diploma. This means that students must complete a specific sequence of courses, receive professional certifications recognized by the relevant industry, and have career and work-based learning, training, and/or experiences.

Advanced Placement – There are some Advanced Placement courses that are restricted enrollment only for students in certain majors: Studio Art, Comparative Government and Politics, Human Geography, Psychology, Computer Science Biology, Chemistry, Environmental Science. All other Advanced Placement Courses are open through departmental applications: Calculus AB, Calculus BC, Chinese Language and Culture, English Language and Composition, European History, French Language and Culture, Italian Language and Culture, Macroeconomics, Microeconomics, Physics I, Physics 2, Physics B, Physics C, Research, Seminar, Spanish Language and Culture, Statistics, United States Government and Politics, United States History, World History.

Class scheduling and school budgetary constraints often limit the opportunities for students to enroll in several Advanced Placement courses outside of those required to complete the “Major” course sequence.

SAT Scores – Class of 2022			
<i>n</i> = 1428	BTHS Mean	NY Mean	National Mean
Composite	1330	944	959
SAT SCORES – Class of 2022			
<i>n</i> = 1428	BTHS Mean	NY Mean	National Mean
Evidence-Based Reading & Writing	649	474	488
Mathematics	680	470	470
AP EXAMS			
	2021	2022	
Total AP Students	3966	3,998	
Total Exams	8291	8,625	
AP Students Scoring 3+	3464	3,617	
% AP Students Scoring 3+	87.3%	90.5%	

Class of 2022

1512 Total number of students in graduating class

Testing Highlights

919 AP Scholars with Distinction

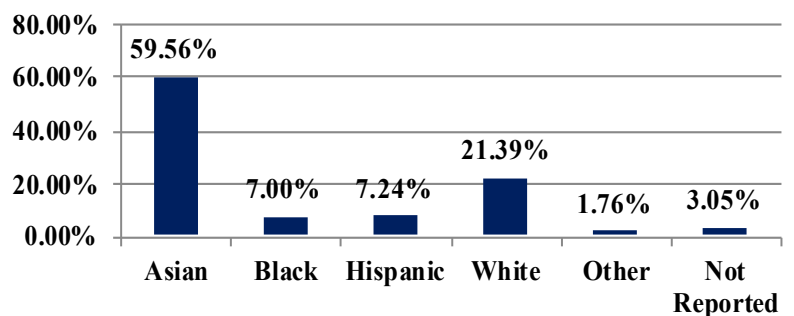
490 AP Scholars with Honor

709 AP Scholars

- National Winner – Samsung Solve for Tomorrow Contest
- National Society for Black Engineers: Regional Lightning Bolt Award for the chapter with the most community service; Regional Award for chapter with highest grade point average.
- Presidential Award for Excellence in Teaching Math & Science
- 36 Math for America Master Teachers in Math & Science
- 18 National Merit Semi-Finalist



Ethnic Distribution



STUDENT LIFE: CLUBS & ORGANIZATIONS

Students are encouraged to participate in extra-curricular activities. It is a way in which students find their affinity groups, earn club credits, and develop interpersonal, participation, and leadership skills.

- *Student Government Organization includes school wide and grade specific officers, councils that focus on issues and policies, and groups that oversee clubs and activities.*
- *Clubs: There are over 200 clubs focused on a wide array of student interests, cultures, hobbies, etc.*
- *Academic Organizations/National Societies -National Honor Society; BETA; National Society of Black Engineers; Society of Women Engineers; American Society of Civil Engineers, American Institute of Architecture Students, Girls Who Code*
- *Service Clubs: Red Cross, Hope, Key Club, Relay for Life*
- *Performance Clubs: Boys' and Girls' STEP teams, Breakdance Club, Opera, and Acapella*
- *Academic Clubs/Teams: Mock Trial, Moot Court, Debate, Model UN, Math Team, Science Olympiad, FIRST Robotics, Chess*
- *Publications: The Survey (school newspaper), Blueprint (yearbook), Horizons (literary magazine), The Radish (satirical newsletter), Math Student Magazine (original research journal).*
- *Productions: Annual Fall Play (comedy/drama), Spring Musical, Winter Holiday and Spring Concert Series, Talent Show, Battle of the Bands*

STUDENT LIFE: ATHLETICS

Brooklyn Tech Scholar-Athletes are required to take the same academic course load as students not participating on athletic teams. All students are NCAA eligible based on clearinghouse course registration and individualized standardized achievement scores. All Scholar-Athletes must maintain amateur status to play in the Public School Athletic League.

In 2019, Brooklyn Tech won 9 Public School Athletic League City Championships (Spring sports were cancelled last year)

FALL SPORTS:

Boys Badminton, Boys Bowling, Girls Bowling, Boys Cross Country, Girls Cross Country, Boys Fencing, Junior Varsity Football, Varsity Football, Girls Golf, Boys Soccer, Girls Soccer, Girls Swimming, Girls Tennis, Girls Junior Varsity Volleyball, Girls Varsity Volleyball

WINTER SPORTS:

Boys Junior Varsity Basketball, Boys Varsity Basketball, Girls Junior Varsity Basketball, Girls Varsity Basketball, Boys Indoor Track, Girls Indoor Track, Boys Varsity Swimming, Boys Table Tennis, Girls Table Tennis, Boys Wrestling

SPRING SPORTS:

Girls Badminton, Boys Varsity Baseball, COED Cricket, COED Golf, Girls Fencing, Boys Handball, Girls Handball, Boys Lacrosse, Girls Lacrosse, Boys Outdoor Track, Girls Outdoor Track, Softball, JV Girls Soccer, Stunt, Boys Tennis, Boys Volleyball, Girls Wrestling

COLLEGE DATA

	2020 (n = 1379)	2021 (n = 1534)	2022 (n = 1514)
4 Year Colleges	98.5%	92.4%	87.4%
2 Year Colleges	1.5%	.02%	3.0%
NY Public	56.6%	48.1%	58.1%
Private	37.4%	39.2%	37.2%
Out of State Public	5.7%	7.3%	6.3%