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## Mission Statement

Biotechnology High School, an International Baccalaureate World School, integrates life science, technology, and engineering into a rigorous curriculum that inspires students toward open-minded participation in the global community and prepares them for higher education and leadership in an increasingly demanding workplace through scholarly research, original investigations, and interactive partnerships.



## School & Community

The Monmouth County Vocational School District (MCVSD) prepares students for an evolving workplace, lifelong learning, and further education. Biotechnology High School (BTHS), an International Baccalaureate (IB) World School, is one of MCVSD's five career academies. BTHS students are selected through a highly competitive application and admissions process. The school population represents a cross section of students from more than thirty resident districts throughout Monmouth County. BTHS provides students with an exceptional educational experience through a college preparatory curriculum emphasizing research, laboratory skills, critical thinking, problem solving, technology, leadership, and teamwork. BTHS is the only high school in New Jersey in which 100% of students are candidates for the IB Diploma. Universities worldwide recognize IB as a rigorous high school program that provides excellent preparation for post-secondary success.

BTHS is a close-knit and supportive learning community of approximately 320 exemplary students and 27 highly-qualified faculty members. The facilities and equipment at BTHS are state of the art, including two full biotechnology labs, a tissue culture lab, and several 3D printers. The one-hour lunch/activity period allows students to be involved in a wide range of co-curricular activities, while also providing time to work individually with teachers, collaborate on group projects, and socialize with peers. BTHS employs a shared leadership model that involves all students in the management of the school community. Co-curricular activities provide involvement opportunities in the arts, business, civics, service, and STEM. While sports are not offered, many students participate in athletics at the high schools in their sending districts.

BTHS has an active Parent-Student-Faculty Association (PSFA) which provides the school with financial support for enrichment programs, hospitality for community events, teacher grants, and student scholarships. BTHS also benefits from the involvement of its Advisory Board. This board includes members from both industry and higher education who work closely with staff on curriculum development, equipment selection, and in the acquisition of grants and student internships.

More than 85% of BTHS alumni have pursued STEM-related undergraduate programs. Commonly declared majors include: Biomedical Engineering, Biology, Computer Science, Engineering, Neuroscience, Nursing, Pharmacy and Pre-Medicine.

## Curriculum

BTHS operates on an alternating day, four-period block schedule in which classes meet for 82 minutes two or three times per week. Courses are either full-year (5 credits) or semester-long (2.5 credits). All core and themed courses, not otherwise designated as AP or IB, are taught at an honors level. Beginning in grade 11, all students become candidates for the IB Diploma. During the two-year IB Diploma Program, students are required to take seven IB courses, write a 4,000-word senior thesis, and complete Creativity, Activity, and Service (CAS) requirements. To earn the IB Diploma, students need to achieve superior scores on externally assessed exams, projects, and essays.

BTHS students complete 160 credit hours of instruction, including a minimum of 45 credit hours in laboratory sciences and mandatory coursework in leadership and ethics. Additionally, each student completes an industry-based senior internship. Partner sites include: Freehold Emergency Medical Services, Monmouth Medical Center, NJ Sharing Network, Robert Wood Johnson University Hospital, and Rutgers University.

## Grading System & GPA

In accordance with MCVSD Board of Education policy, students are not ranked. The grade point average, computed at the end of each year, is unweighted and includes all courses. GPAs are based on a 100-point scale.

**Non-Discrimination Clause:** MCVSD does not discriminate on the basis of race, creed, color, national origin, ancestry, nationality, marital or domestic partnership or civil union status, sex, pregnancy, gender identity or expression, affectional or sexual orientation, reprisal or retaliation for prior civil rights activity, religion, age, disability, or socioeconomic status.

# Program of Study

## Grade 9

Biology/Genetics  
Chemistry  
Intro to Computer Science  
English I  
Health/Fitness I

Geometry or Algebra II/Trig  
Intro to Research  
Spanish I  
World Cultures

## Grade 10

Algebra II/Trig or Precalculus/Stats  
Biotech Lab Skills  
Explorations in Economics  
English II

Health/Fitness II  
Physics  
Molecular/Agricultural Biotechnology  
Spanish II  
US History I

## Grade 11

Creativity, Activity, Service (CAS)  
IB Biology HL I  
IB Language and Literature HL I  
IB History SL  
Precalculus/Stats or AP Calculus AB

IB Physics HL I or IB Chemistry HL I  
Spanish III  
Theory of Knowledge (TOK) I  
+ Electives

## Grade 12

CAS  
Extended Essay (Senior Thesis)  
IB Biology HL II  
IB Language and Literature HL II  
IB Math SL and/or AP Calc BC

IB Physics HL II or IB Chemistry HL II  
IB Spanish SL  
Leadership, Exercise, & Personal Growth (LEAP)  
Senior Internship  
TOK II  
+ Electives

## Electives

Advanced Experimental Design  
Anatomy and Physiology  
AP Computer Science A  
BioEngineering  
BioMedical Engineering  
Cell Culture Techniques

Developmental Biology  
Forensic Analysis  
Intro to Film & Media  
Genomics, Proteomics, and Bioinformatics  
Neuroscience and Biopsychology  
Public Speaking

+ Option II NJ Graduation Requirements: Physical Education & Visual/Performing Arts

# "Excellence is in our DNA"



Recognized by the  
U.S. Department  
of Education as a  
National Blue  
Ribbon School  
in 2014



#6 Ranked High  
School in New  
Jersey (2020 U.S.  
News & World  
Report)

Class of 2020 Highlights	2019-20 Achievements
<ul style="list-style-type: none"> <li>★ 81 students in the graduating class</li> <li>★ 96% earned an IB Diploma</li> <li>★ 529 college acceptances</li> <li>★ 15 National Merit Finalists, 37 Commended</li> <li>★ 6 Rutgers Presidential Scholars</li> <li>★ 6 students enrolled in BS/MD Programs</li> <li>★ \$20,359,292 institutional merit aid offered</li> </ul>	<ul style="list-style-type: none"> <li>★ Euro &amp; Fed Challenges (Honorable Mention)</li> <li>★ Governor's STEM Scholars (3)</li> <li>★ Jersey Shore Science Fair (8 winners, 1 first place)</li> <li>★ JSA Mid-Atlantic Conference Best Speaker Awards (4)</li> <li>★ NJ Junior Science/Humanities Symposium (2 finalists)</li> <li>★ NJ Science Olympiad State Finals (4 winners)</li> <li>★ Technology Student Association (5 state winners)</li> </ul>

## Test Score Summary

IB Subject	BTHS Average	Global Average
Biology	5.59	4.72
Chemistry	4.19	4.92
English	5.79	5.13
History	5.69	4.69
Math	5.37	4.79
Physics	5.25	5.29
Spanish	5.67	5.12

SAT
<p><b>1494</b> BTHS Average Score National Average: 1051</p> <p><u>Middle 50%</u> <b>1455-1550</b></p>

ACT
<p><b>33.9</b> BTHS Average Score National Average: 20.7</p> <p><u>Middle 50%</u> <b>33-35</b></p>

SAT II Biology (Molecular)	IB Biology HL
<p><b>BTHS Average Score: 758</b> National Average Score: 654</p>	<p>54% of BTHS students scored a 6 or 7 (compared to 24% worldwide)</p>

# College Matriculation

Albany College of Pharmacy and Health  
American University  
Amherst College  
Arcadia University  
Australian National University  
Bard College  
Barnard College  
Bentley University  
Binghamton University  
Boston College  
**Boston University\***  
Brandeis University  
**Brookdale Community College\***  
Brown University  
Bryn Mawr College  
Bucknell University  
California Polytechnic State University  
University of California, Berkeley  
University of California, Los Angeles  
University of California, San Diego  
University of California, Santa Cruz  
**Carnegie Mellon University\***  
**Case Western Reserve University\***  
College of Charleston  
University of Chicago  
Christopher Newport University  
Clark University  
Clemson University  
Colgate University  
Colorado State University  
Columbia University  
University of Connecticut  
The Cooper Union  
**Cornell University\***  
Culver-Stockton College  
Dartmouth College  
Delaware Valley University  
**University of Delaware\***  
Denison University  
Dickinson College  
Drew University  
Drexel University  
Duke University  
**Duquesne University\***  
Elon University  
Emerson College  
Emory University  
Fairleigh Dickinson University  
Florida Institute of Technology  
**University of Florida\***  
Fordham University  
**The George Washington University\***  
Georgetown University  
**Georgia Institute of Technology\***  
University of Georgia  
Gettysburg College  
Hamilton College  
University of Hartford  
**Harvard University\***

Haverford College  
University of Hawaii at Manoa  
**Hofstra University\***  
**Holy Cross College\***  
IE University - Segovia  
Indiana University at Bloomington  
**Ithaca College\***  
James Madison University  
**Johns Hopkins University\***  
Kean University  
University of Kentucky  
**Lafayette College\***  
Lehigh University  
Louisiana State University  
University of Maine  
**Macalester College\***  
Marist College  
University of Mary Washington  
Univ. of Maryland, Baltimore County  
**University of Maryland, College Park\***  
Massachusetts Institute of Technology  
University of Massachusetts, Amherst  
McGill University  
Mercyhurst University  
Messiah College  
University of Miami  
Michigan State University  
**University of Michigan, Ann Arbor\***  
Mississippi State University  
Monmouth University  
Montclair State University  
Muhlenberg College  
Univ. of New Hampshire at Durham  
**The College of New Jersey\***  
**New Jersey City University\***  
**New Jersey Institute of Technology\***  
New York Institute of Technology  
**New York University\***  
**Univ. of North Carolina, Chapel Hill\***  
**Northeastern University\***  
Northwestern University  
**University of Notre Dame\***  
Nova Southeastern University  
Ohio Northern University  
The Ohio State University  
The University of Oklahoma  
**University of the Pacific\***  
Pennsylvania State University  
**University of Pennsylvania\***  
Pepperdine University  
**University of Pittsburgh\***  
Point Park University  
Pomona College  
Pratt Institute  
**Princeton University\***  
Purdue University  
Quinnipiac University  
**Ramapo College of New Jersey\***  
Reed College

Rensselaer Polytechnic Institute  
**University of Rhode Island\***  
Rhode Island School of Design  
Rice University  
University of Richmond  
Rochester Institute of Technology  
University of Rochester  
Rollins College  
Rowan University  
**Rutgers University, New Brunswick\***  
Saint Louis University  
Sarah Lawrence College  
Univ. of the Sciences in Philadelphia  
**University of Scranton\***  
Seton Hall University  
Skidmore College  
University of South Carolina  
**University of Southern California\***  
**St. Bonaventure University\***  
Stanford University  
State Univ. of New York - New Paltz  
Stevens Institute of Technology  
Stockton University  
Stony Brook University  
SUNY College at Geneseo  
Swarthmore College  
Syracuse University  
**Temple University\***  
Tulane University  
Union College (New York)  
United States Air Force Academy  
United States Military Academy - Army  
**United States Naval Academy\***  
University College London  
Ursinus College  
**Vanderbilt University\***  
Vassar College  
University of Vermont  
**Villanova University\***  
**University of Virginia\***  
Virginia Commonwealth University  
Virginia Tech  
Wagner College  
Washington and Lee University  
**Washington University in St. Louis\***  
University of Washington  
Wellesley College  
Wesleyan University  
West Chester University  
Williams College  
Wheaton College  
Widener University  
College of William and Mary  
**Wilkes University\***  
Worcester Polytechnic Institute  
**Yale University\***  
Yeshiva University  
York College of Pennsylvania  
Youngstown State University