

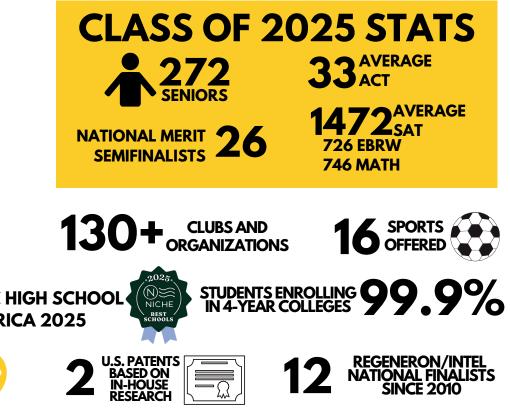
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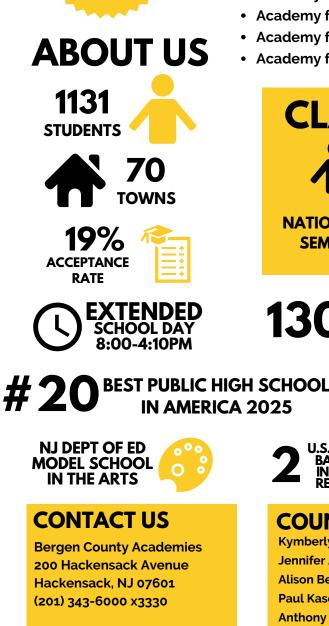
### BERGEN COUNTY ACADEMIES CLASS OF 2025 PROFILE

### **ONE SCHOOL, SEVEN ACADEMIES**

- Academy for the Advancement of Science & Technology (AAST)
- Academy for Business and Finance (ABF)
- Academy for Culinary Arts & Hospitality Administration (ACAHA)
- Academy for Engineering & Design Technology (AEDT)
- Academy for Medical Science Technology (AMST)
- Academy for Technology & Computer Science (ATCS)
- Academy for Visual & Performing Arts (AVPA)



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www.bergen.org/bca

**Russell Davis, Principal** 

### WHAT MAKES US SPECIAL?



A particularly significant aspect of our research program is that the students select the scientific question that they will be studying and do not receive preliminary data for their projects. The labs at BCA are functional, professional entities not normally found in a high school setting. They include agriscience, mechatronics, optics, nanotechnology, cell/molecular biology (including Next Generation Sequencing and label-free live cell imaging), nano-structural imaging (including a Scanning Electron Microscope (SEM) and Transmission Electron Microscope (TEM)), a Financial Markets Lab (equipped with Bloomberg terminals), and a variety of other research opportunities. Our research program has produced three Presidential Scholars, twelve Regeneron STS Finalists (four in the Top Ten), over 100 Regeneron STS Scholars, multiple Davidson Fellows, several ISEF "Best in Category", numerous publications in peer reviewed journals, a participant in the White House Science Fair, and a patent-the result of original student research.

### PROJECTS

During their first three years at the Academies, students will spend two hours every Wednesday working on an interdisciplinary project. Students have the opportunity to choose a different project each trimester.

#### SENIOR INTERNSHIP

All of our seniors devote Wednesdays to a yearlong individualized internship called Senior Experience. Seniors receive nine academic credits for this supervised graduation requirement. Over 150 employers offer experiential learning opportunities in research centers, hospitals, universities, non-profit organizations, government agencies, major corporations and small businesses in the NY/NJ metropolitan area.



BCA offers an increasingly expanding array of opportunities to participate in international programs with partner schools across the world. Students often collaborate on research projects in advance. Recent destinations include Denmark, Greece, Japan, Israel, Singapore, United Arab Emirates and the UK.



BCA students enrich their education and pursue their interests by selecting from an array of electives in art, humanities, math, research, science, and technology. Students can choose from over eighty elective courses in visual, performing, and culinary arts, music, physics, engineering and robotics, computer science, psychology, business, the study of languages and cultures, agricultural science, biology, and chemistry.

## **ACADEMIC INFORMATION**

#### GRADING

- Starting in 2024-25 GPA is calculated on a new equivalency scale (see inset)
- Courses taken prior to 2023-24 are included in GPA using the old scale
- Most courses are trimester-based but select courses are semester-based
- Students are NOT RANKED
- GPA's are calculated YEARLY based on final grades attained in each course
- GPA is unweighted and includes academic courses only
- 4.0 is the highest possible GPA
- D- is the lowest passing grade

#### COURSES

- All academic courses are taught at the honors level or above
- All Academy programs far exceed NJ State graduation requirements
- Due to scope and sequence, students in some Academies may not be able to take the "Post AP/IB Courses" listed
- 40 hour community service requirement (over 4 years)

<u> </u>	Up to	24-25 &
Grade	23-24	Beyond
Α	4	4
A-	3.8	3.667
B+	3.33	3.333
В	3	3
B-	2.8	2.667
C+	2.33	2.333
С	2	2
C-	1.8	1.667
D+	1.33	1.33
D	1	1
D-	N/A	0.667
F	0	0

#### **AP COURSES**

- AP Art History AP Biology AP Calculus AB, BC AP Chemistry AP Computer Science A AP Government AP Macroeconomics
- AP Microeconomics AP Music Theory AP Physics C AP Psychology AP Statistics AP Studio Art

#### **IB COURSES**

- IB Business Management SL IB Computer Science SL
- IB Economics HL
- IB Environmental Systems SL
- IB French SL, HL
- IB History HL, SL

# IB World Literature HL

#### POST AP/IB COURSES

Advanced Math Topics Advanced Music Theory Advanced Topics in Chemistry AP Calculus BC+ Algorithms & Data Structures Linear Algebra/Diff Equation Multivariable Calculus Organic Chemistry I/II/III

IB Literature / Language HL

IB Mandarin ab initio, SL

IB Math SL, HL

IB Spanish SL, HL

#### ACADEMY INFORMATION AAST-SCIENCE

AAST students take multiple years of biology, chemistry and physics while completing studies in chemical engineering, organic chemistry and modern physics. Graduates from AAST are prepared to continue studies across a wide range of scientific disciplines. AP Chemistry is a requirement of the program. Throughout the curriculum, students are encouraged to find original answers to modern research challenges using the state of-the-art facilities available on campus.

#### **ABF-BUSINESS**

ABF students take business, finance, marketing, and economics classes as part of their core. Business principles are taught in multiple, high-level core courses which incorporate topics such as: the global business environment, management, marketing, finance, economics and entrepreneurship. ABF has incorporated an emphasis on a global perspective. The driving force behind this global component is the integration of the International Baccalaureate curriculum to an already rigorous course of study.

#### ACAHA-CULINARY ARTS AND HOSPITALITY

Students in the Academy for Culinary Arts and Hospitality Administration have a strong interest in culinary arts and restaurant/hospitality management. ACAHA Students are prepared for study in any area by an honors-level core curriculum, augmented by elective options in all facets of food preparation, facility management, customer service, and entrepreneurship. All students take IB Business Management and they may elect to participate in the IB Diploma program.

#### **AEDT-ENGINEERING**

AEDT students study courses in the engineering sciences, including design technology, computer science, manufacturing, electronics, and biomedical engineering. AEDT focuses on general engineering disciplines and prepares students for entrance into college engineering programs. Students in this academy have a concentration in engineering and design courses and focus on skills which are generally useful in any engineering curriculum. Projects include product development, civil or architectural designs, and robotic competitions.

#### **AMST-MEDICINE**

AMST students balance a rigorous science curriculum with scientific research to be best prepared for a future in the medical field. Students learn to design original scientific experiments and carry them out in a high school setting. In addition to advanced level science classes, students take specialized academy-specific courses such as Bioethics, Epidemiology, Pharmacology, Neuroscience, Biotechnology, Anatomy and Physiology, and Introduction to Surgical Techniques.

#### **ATCS-COMPUTER SCIENCE**

ATCS students develop a strong foundational understanding of programming, computer architecture, data structures and algorithms, and program analysis. The program is oriented around underlying ideas that will never become obsolete, even as technologies change. Throughout their careers at BCA, students extend their skills in computing through projects and electives of their choice, often including processor design, web application development, robotics, computer security, and mechatronics. The Senior Capstone is a culmination in which the students work in groups to develop a product for a client.

#### **AVPA-MUSIC**

AVPA Music students have an outstanding ability in music and are some of the strongest musicians in their communities. Students learn woodwind, brass, string and percussion instruments. They study college-level music theory, which includes harmonic analysis, counterpoint, voice leading and ear training. Students also learn current technological and composition techniques in electronic music synthesis where they work with state-of-the-art software.

#### **AVPA-THEATRE**

AVPA Theatre students participate in a rigorous training program for students interested in pursuing a college major in theatre or film leading to a career in some aspect of the entertainment industry. Core courses include sequences in acting, dance, voice and speech, musical theatre, theatre history, theatrical design, dramatic writing, and directing. Students are introduced to a variety of methods most productive for their individual growth.

#### **AVPA-VISUAL**

AVPA Visual students study essential aspects of the visual arts through immersion in a curriculum that embraces new technologies, while emphasizing traditional skills and principles of art and design. The program allows students to pursue their passion in any one of a broad range of arts including graphic and web design, illustration, photography, animation/video, game design, package design, virtual reality, traditional/fine arts, and art history.

### COLLEGE ENROLLMENTS 2021-2024

Amherst College	2	Monts
Babson College	3	Muhle
Barnard College	8	Nebra
Bergen Community College	3	New J
Binghamton University	4	New Y
Boston College	7	New Y
Boston Conservatory at Berklee	1	North
Boston University	20	North
Bowdoin College	1	North
Brandeis University	3	Nova
Brown University	6	Oberli Obia
Bryn Mawr College	1 2	Ohio S
Bucknell University	2	Oklah Pace l
California Institute of Technology California Institute of the Arts	2	Pace of Penns
	19	Point
Carnegie Mellon University Case Western Reserve University	13	Pomo
Champlain College	1	Pratt
Chapman University	1	Prince
Clark Atlanta University	1	Purdu
Colby College	2	Rama
Colgate University	1	Reed
College of the Holy Cross	1	Renss
Colorado School of Mines	1	Rhode
Columbia University	12	Rhode
Cooper Union	5	Rice U
Cornell University	53	Rider
Culinary Institute of America	1	Ringli
CUNY Brooklyn	2	Roche
CUNY John Jay	1	Rowa
Dartmouth College	5	Rutge
DePaul University	1	Rutge
Drexel University	5	San D
Duke University	10	Schoo
Eckerd College	1	Seton
Elon University	3	Siena
Embry-Riddle University	1	Skidm
Emerson College	3	Smith
Emory University	9	South
Emory University-Oxford College	1	South
Fairleigh Dickinson University	2	St. Jol
Fashion Institute of Technology	1	Stanfo
Florida Institute of Technology	1	Steve
Florida State University	2	Stony
Fordham University	10 14	Susqu Swart
Georgetown University Georgia Institute of Technology	8	Templ
Grinnell College	2	The Co
Harvard University	20	The Co
Hofstra University	3	The G
Howard University	2	The Ju
Indiana University-Bloomington	1	The N
Ithaca College	2	The So
Johns Hopkins University	5	The U
Johnson & Wales University	1	Tufts
Kean University	2	Tulan
King's College	1	Union
Lafayette College	1	United
Lehigh University	2	Unive
Liberty University	1	Unive
Marist College	1	Unive
Massachusetts Institute of Tech	20	Unive
Miami University-Oxford	1	Unive
Middlebury College	1	Unive
Montclair State University	8	Unive

2	Montserrat College of Art	1
3	Muhlenberg College	
		5
8	Nebraska Wesleyan University	1
3	New Jersey Institute of Technology	34
4	New York Institute of Technology	2
7	New York University	39
1	North Carolina State University	2
20	Northeastern University	32
1	Northwestern University	9
3	Nova Southeastern University	1
6	Oberlin College	1
1	Ohio State University	
2		5
	Oklahoma City University	2
2	Pace University	1
2	Pennsylvania State University	9
19	Point Park University	1
13	Pomona College	1
1	Pratt Institute	2
1	Princeton University	10
1	Purdue University	
		18
2	Ramapo College of New Jersey	6
1	Reed College	1
1	Rensselaer Polytechnic Institute	16
1	Rhode Island School of Design	8
12	Rhodes College	1
5	Rice University	6
53	Rider University	2
1	Ringling College of Art and Design	1
2	Rochester Institute of Technology	
		5
1	Rowan University	5
5		157
1	Rutgers University-Newark	6
5	San Diego State University	1
10	School of Visual Arts	1
1	Seton Hall University	6
3	Siena College	1
1	Skidmore College	2
3	Smith College	
		1
9	South Dakota School of Mines & Tech	1
1	Southern Methodist University	1
2	St. John's University-New York	1
1	Stanford University	5
1	Stevens Institute of Technology	33
2	Stony Brook University	1
10	Susquehanna University	1
14	Swarthmore College	3
8	Temple University	
2	The Catholic University of America	1
		1
20	The College of New Jersey	5
3	The George Washington University	11
2	The Juilliard School	3
1	The New School	3
2	The Sophie Davis School of Biomed	1
5	The University of Texas at Austin	12
1	Tufts University	9
2	Tulane University	4
1		
	Union College	3
1	United States Military Academy	3
2	University at Buffalo	1
1	University of Arizona	2
1	University of California-Berkeley	2 3
20	University of California-Davis	1
1	University of California-Irvine	2
1	University of California-Los Angeles	3
8	University of California-San Diego	3
	Sinversity of cathornia Sun Diego	3

	1	University of California-Santa Cruz	2
	5	University of Central Florida	1
	1	University of Chicago	7
gy	34	University of Colorado Boulder	2
У	2	University of Connecticut	6
	39	University of Florida	5
	2	University of Georgia	2
	32	University of Illinois	4
	9	University of Iowa	1
	1	University of Maryland	17
	1	University of Massachusetts-Amherst	8
	5	University of Miami	9
	2 1	University of Michigan	20
	9	University of Missouri-Columbia	1
	9 1	University of North Carolina	5
	1	University of Notre Dame	6
	2	University of Pennsylvania	19
	10	University of Pittsburgh	6
	18	University of Rhode Island	2
	6	University of Richmond	1
	1	University of Rochester	7
	_ 16	University of South Carolina	2
	8	University of South Florida	1
	1	University of Southern California	12
	6	University of Vermont	1
	2	University of Virginia	3
gn	1	University of Wisconsin-Madison	4
у	5	Vanderbilt University	4 10
	5	Vassar College	
ck	157	-	2
	6	Villanova University	6
	1	Virginia Tech	3
	1	Wagner College	1
	6	Washington and Lee University	1
	1	Washington University in St Louis	10
	2	Wellesley College	4
- ·	1	Wentworth Institute of Technology	1
Tecł	-	Wesleyan University	1
	1	Wheaton College	1
	1	William & Mary	2
	5	William Paterson University	1
	33	Williams College	1
	1 1	Worcester Polytechnic Institute	5
	3	Yale University	6
	1	International	
ca	1		_
	5	Bocconi University	2
ty	11	City University of London	1
.,	3	Durham University	2
	3	Erasmus University Rotterdam	1
led	1	IE University - Madrid	1
1	12	International University in Geneva	1
	9	King's College London	1
	4	McGill University	4
	3	University College London	1
	3	University of Amsterdam	1
	1	University of Oxford	2
	2	University of St Andrews	1
/	3	University of the Arts London	1
	1	University of Tokyo - PEAK	1
	2	University of Toronto	1
eles	3	University of Ulster	1
jo	3	University of Waterloo	2