

**AP and WPS: A Study of AP  
Participation and AP Performance in  
Worcester Public Schools, Part 1  
(Quantitative)**

*By*

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# Introduction

Every year in the United States, millions of high school students take Advanced Placement (AP) exams in their local schools and school districts. Developed in the 1950s, initially by the College Board for elite students at private schools, AP has become an integral part of the American high school experience. In AY 2021, in fact, 2,548,228 AP students took 4,578,302 AP exams worldwide -- 96% of these were in the 31 US states and the District of Columbia that offer AP programs.<sup>1</sup> In Worcester that year, the seven public high schools administered 2,060 AP exams to 1,322 students and the tests spanned 28 of the 39 subject area tests offered by the College Board.<sup>2</sup>

Like many school districts, Worcester Public Schools (WPS) invests a considerable amount of time and resources into its AP program and exams. Many months before a school year begins, high schools and district administrations determine which AP courses will run -- AP exams are the culmination of year-long high school courses -- and they schedule classes accordingly. They also recruit teachers and students, and arrange access to AP materials with the College Board. Beyond teacher salaries, WPS budgeted an additional \$348,260 in AY 2023 to cover AP textbooks (\$75,000), “supplemental salaries,” (\$80,080) and “various services” (\$193,180).<sup>3</sup>

Once the school year is underway, teachers may (and often do) use resources from a College Board-developed curricula designed to give “students the chance to tackle college-level work while they’re still in high school.”<sup>4</sup> AP instruction is necessarily geared toward preparing students to succeed on their end-of-the-year exams, which are administered in a window established by the College Board that usually falls in early-May. Students prepare all year for the exams, in some cases they begin before the school year starts with preparatory summer assignments. At the end of the year, students receive grades from their AP teachers for completing the courses which show up on their official transcripts; they also receive a score of 1-5 from the College Board for their AP exams.

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<sup>1</sup> [The College Board, AP Program Results: Class of 2021](#). Over 96% of these exams were administered within the United States.

<sup>2</sup> For AY 2022-2023, AP exams are divided into 7 categories: Capstone (2 different exams), Arts (5 exams), English Language Arts (2 exams), History and Social Sciences (9 exams), Math and Computer Science (6 exams), Sciences (7 exams) and World Languages and Cultures (8 exams).

<sup>3</sup> On textbooks, see WPS Budget, FY 2023, p 82.. On “supplemental salaries” see WPS Budget, FY 2023, p 199. According to this particular budget line explanation, “This line item provides funds for the district's advanced placement program focusing on access and equity through support to teachers and students. The funding will provide students with individual and small group tutoring after school, Saturdays, and during vacations. This funding also includes the support of an AP Coordinator at each high school.” p. 200. And on “various services,” see WPS Budget, FY 2023, p 230. According to the budget line explanation, “This line provides funds for all the expenses related to the advanced placement program including textbooks for new courses and added sections and technology, materials, and ongoing professional development. .” p. 232.

<sup>4</sup> [The Advanced Placement homepage at The College Board website](#). (accessed December 17, 2022).

The AP program is frequently promoted to school systems, students, and their families by emphasizing college-related benefits for test takers. According to the College Board, a primary advantage associated with taking an AP exam is “to get the credit you earned,” which means students could receive college credit for scoring well enough on exams.<sup>5</sup> This benefit is said to have positive academic and financial implications for college-bound students. An entry on the College Board Blog elaborates: earning college credit early “gives you the flexibility to change majors, pursue a second degree, or study abroad. In other words, having college courses satisfied by earning high scores on AP exams can free up time for effective courses and increase chances of students graduating early, which saves on tuition money spent.”<sup>6</sup>

In addition to the claims of the College Board, many college prep companies assert that AP experience helps with college admission. In an informational video on YouTube, for example, a college prep expert from the *Princeton Review* noted as his top benefit for taking AP courses that it “helps with college admissions” in that it shows admissions personnel in universities that students challenged themselves in high school.<sup>7</sup> This particular expert’s second and third benefits supported other College Board rationales to take AP exams: 2) “it can earn you some [college] course credit when you are in [high] school,” and 3) AP exams help secure “advanced placement” in higher level courses when in college. Other outlets such as BestColleges.com, StudyPoint.com, TeenLife.com, PrepScholar.com, and Collegen321.com agree with these notions and further popularize the same claims.<sup>8</sup> Over time, many of these ideas have become educational articles of faith.

Massachusetts school districts including WPS repeat the same arguments. For example, the Boston Public Schools website lists “potential to earn college credit while still in high school” as the first item on a list titled “Why take an AP class?” The website for Brockton Public Schools references earning college credits, skipping introductory college courses, and potentially graduating college early as the top three benefits of AP. The New Bedford Public Schools claims “an AP course and scoring successfully on the related AP exam, you can save on college expenses ... [and] potentially save students and their families thousands of dollars in college tuition and fees.”<sup>9</sup> And the first sentence

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<sup>5</sup> College Board Blog, “[Three Reasons to Take AP exams](#),” (September 29, 2021); and The College Board Website, “[Benefits of AP](#).”

<sup>6</sup> College Board Blog, “[Three Reasons to Take AP exams](#).”

<sup>7</sup> The Princeton Review, “[College Admissions: Benefits of AP Classes](#)”. As he explained it, by taking AP courses and exams “you’re given the opportunity to make admission counselors who will be reviewing your application very happy because you are answering this question: did you challenge yourself in high school?”

<sup>8</sup> See for example, The Best Schools, thebestschools.org, “[Which AP Classes Should You Take](#)”; StudyPoint.com, “[AP Classes: To take or not to take?](#)”; Teenlife.com, “[AP Classes – What You Need to Know](#)”; PrepScholar.com, “[Are AP Classes Worth It? Should You Take Them?](#)”; and Collegen321.com, “[AP Courses have Benefits but Plenty of Risks for High School Students](#).”

<sup>9</sup> Boston Public Schools website, “[Academics/Advanced Placement \(AP\)](#)”; Brockton Public Schools website, “[Advanced Placement](#)”; and New Bedford High School website, “[Advanced Placement Courses](#).”

on the Worcester Public Schools AP website reads: “AP gives students the chance to tackle college-level work while they are still in high school and earn college credit and placement.”<sup>10</sup>

In addition to all the cheerleading for Advance Placement, though, there have been many serious and blistering criticisms of the program over the last 30 years. For example, there is considerable disagreement over the importance of AP courses and exams on college applications with many outlets warning students to think carefully before submitting their scores to schools.<sup>11</sup> Other critics suggest the expansion of the AP has led to both an increase in exam failures and a watering down of the learning experience. As an article in *The Atlantic* entitled “AP Classes Are A Scam” put it, AP is “one of the great frauds currently perpetuated on American high school students” and “the AP program leads to rigid stultification.”<sup>12</sup> Further still, there are critics who argue that AP remains little more than a “shallow, memorization-based program.” Or that Advanced Placement is a “regime of profitable standardized tests disproportionately affecting public school students attending public universities” according to a recently released book.<sup>13</sup>

Alongside all this, colleges and universities, especially private schools and top-tier schools, have been reconsidering how they use the AP exam scores by accepting only the top scores and specifying which of their courses can be fulfilled with AP credit.<sup>14</sup> More on this in the methodology section.

Literature on these debates is readily available, and it is not the purpose of this study to tread the same ground. Rather, this is a primarily quantitative study that explores Advanced Placement participation and performance at WPS since AY 2007. While there are plenty of local situations that speak to the national debates, in asking two simple questions -- who took AP exams at WPS between AY 2007 and AY 2022, and how did they perform -- this study has arrived at two main conclusions:

1. AP exam participation reports for WPS raise serious questions about equitable access to the program and indicate a considerable opportunity gap;
2. AP exam performance reports for WPS call into question the idea that AP results are an unqualified measure of academic excellence at WPS.

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<sup>10</sup> WPS website, “[Advanced Placement -- Worcester Public Schools, Massachusetts](#)”

<sup>11</sup> [Blog on CollegeVine.com](#). “Do colleges care about AP classes?”. (accessed 9/30/2022) [Blog on PrepScholar.com](#), “Do colleges look at AP scores for admission?” (accessed 9/30/2022). See also [CollegeRaptor.com](#). “Do AP test scores affect your acceptance odds?” (accessed 9/30/2022).

<sup>12</sup> See [https://www.theatlantic.com/national/archive/2012/10/ap-classes-are-a-scam/263456/#disqus\\_thread](https://www.theatlantic.com/national/archive/2012/10/ap-classes-are-a-scam/263456/#disqus_thread).

<sup>13</sup> Annie Abrams, *Shortchanged: How Advanced Placement Cheats Students*. (Baltimore: Johns Hopkins University Press, 2023).

<sup>14</sup> Halle Edwards, “[These Are the 5 Worst Problems with College Board's AP Program](#)”; and [Mindshift.com](#), “[New Report Challenges Beliefs About the Value of AP Classes](#).”

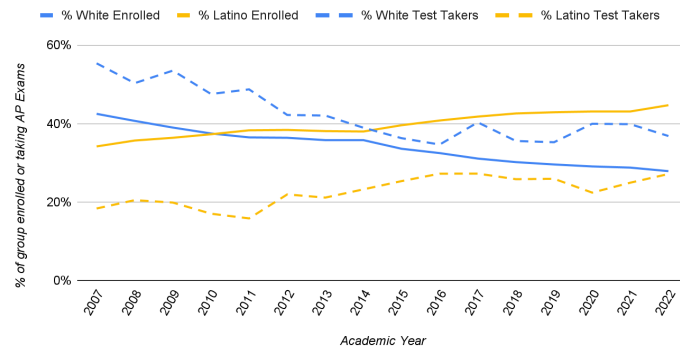
While the impact of the pandemic seems to have disrupted the AP program at WPS to some degree, these conclusions raise questions about reconstituting and funding the program in the same ways in its aftermath.

The major findings of the report include:

1. The AP program at most Worcester public high schools and at the district level is largely unrepresentative of the WPS enrollment. White students are the main AP test-takers and chief beneficiaries of the tests and they have always comprised a greater proportion of the AP exams than their level of enrollment suggests they should. Paradoxically, Latino students have always participated in AP

**% AP Tests Taken and District Enrollment by Race**

*WPS, White and Latino Students, AY 2007 - AY 2022*



exams less than their enrollment suggests. Even in AY 2022, when White students made up only 27.9% of the WPS enrollment, White test-takers sat for 38.5% of the exams. Latino students, though, who comprised 44.7% of WPS enrollment, sat for 28.4% of the exams.

2. South High and Doherty High dominate the WPS AP program. Combined, these two schools have accounted for 48.6% of test-takers and 51.8% of tests taken since AY 2007.
3. A significant and intentional expansion of the AP program at WPS since AY 2007 has seen an increase in top scores (4-5) but at the cost of a simultaneous and exponential increase of failing scores (1-2) on AP exams.
4. Most test-takers fail their AP exams by scoring a 1-2, scores characterized by the College Board as “not qualifying.” From AY 2007, nearly 2/3 of test-takers on average (62.6%) have earned the undesirable scores that are not normally accepted for credit by colleges and universities. In AY 2022 alone, 65.3% of WPS test-takers failed their AP exams.

A follow-up qualitative study is already underway to understand the situations and relationships that inform the quantitative results, and what impact passing or failing an exam has on test-takers.

# Data and Methodology

This quantitative study relies on public data from the Massachusetts Department of Elementary and Secondary Education (DESE) website’s *School and District Profiles*. (<https://profiles.doe.mass.edu/>) It examines public data released by DESE pertaining to AP exam participation and performance from AY 2007 to AY 2022. It is primarily quantitative -- it reports the data with minimal interpretation except to highlight trends.

DESE publishes two robust sets of metrics related to the annual Advanced Placement examinations on its public website: *Advanced Placement Participation* and *Advanced Placement Performance*. They contain information on test takers, tests administered, and scores earned. Both data sets can be divided into subsets by school, by demographic categories, and by exam subject. Data users can drill down on a variety of subgroup markers including race, sex, ability, language proficiency, and economic status.<sup>15</sup> This data can also be viewed at both the district and individual school levels. In this way researchers looking at large urban communities such as Worcester are able to explore questions of equity in detail with data from across the Commonwealth.

The methodology by which researchers worked is straightforward. Data reported by DESE, which it receives from district administrations, is assumed to be an accurate reflection of a district’s participation and performance. For the most part, researchers intentionally focused on larger sets of data to minimize analytical errors, and they frequently present raw data in the charts. The only formulas used were simple calculations of percentages, averages, and sums derived from report data.

Researchers took a new approach to aggregating data for this study, though. DESE reports AP scores in two different ways. One approach shows the number of students earning each score on a 1-5 scale; the other approach groups students who earned 3, 4, and 5 and students who earned 1-2, which mirrors the College Board’s distinction between “qualifying” and “not qualifying” scores. However, this aggregation gives the natural impression that qualifying scores of 3, 4, and 5 are *passing* scores and

AP Scores as Defined by The College Board		
AP Exam Score	Recommendation	College Course Grade Equivalent
5	Extremely well qualified	A+ or A
4	Very well qualified	A-, B+, or B
3	Qualified	B-, C+, or C
2	Possibly qualified	
1	No recommendation	

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<sup>15</sup> Currently available in these two reports is data that covers the period from Academic Year 2007 (September 2006 to June 2007) to Academic Year 2022 (September 2020 to June 2022).

scores of 1-2 are *failing* scores. In reality these College Board assigned scores may have no impact on students' high school grades. Nor do the scores automatically translate into college credit.<sup>16</sup>

It is important to remember that colleges and universities -- not the College Board -- determine if and when students' AP scores are accepted for college credit. Individual higher education institutions also determine which college courses individual AP exams could satisfy on their campuses. Another reality is that colleges and universities increasingly accept only scores of 4 and 5 for higher education credit and a few accept nothing less than 5. In fact, more than half the schools in Worcester do not accept 3 for all AP exams.

In light of this, researchers here have arranged the AP performance data into three categories in which 1-2 means *not worthy of college credit*, 3 means *may be worthy of college credit*, and 4-5 means *likely worthy of college credit*. On all performance-related charts, the AP score results have been color-coded in a familiar red-yellow-green scheme corresponding to the 1-2, 3, and 4-5 groups.

Finally, there is a small caveat for the student participation data and another for the student performance data that are worth noting. First, AP participation reports from DESE count the number of test takers only. Accordingly, any students in an AP class who do not elect to take their exam(s) are not represented in the participation numbers. Given that Worcester Public Schools has expanded the program significantly over the last decade, that exams are taken during school time, and that WPS subsidizes student test fees, it is believed that most students who feel prepared for their AP exams are likely to take them. Consequently, this report cannot speak to every student who takes an AP course; but it can look at every student who took at least one AP exam.

Second, the AP performance data caveat is that DESE does not report AP scores for student samples with fewer than 10 students in order to protect student anonymity. As a result, researchers do not always have perfect samples for some of the less-popular exams. However, because these samples are so small, they have a negligible impact on the overall analysis when they occur. In fact, researchers can see the results for smaller samples when they are aggregated into larger samples. For instance, when a small group of students take the *AP 2-D Studio Art* exams at Burncoat, their scores are reflected in the subject area test results under the heading "Arts exams" along with results of the students who took *AP 3-D Art*, *AP Drawing*, and *AP Music Theory*. When sample size may affect the data analysis significantly, researchers will acknowledge it in the narrative or the footnotes.<sup>17</sup>

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<sup>16</sup> Statements of the College Board further inform this assumption. For example, on its main AP website page entitled "What is AP?," the College Board states, "many U.S. colleges grant credit and/or advanced placement (that means they let you skip the equivalent course once you get to college) for scores of 3 and above." (The CollegeBoard.org, "[About AP Scores](#)") School districts and high schools make similar statements, as WPS does in the "Advanced Placement Policy" section of the WPS student handbook: "students who achieve a score of 3, 4 or 5 on the Advanced Placement exam may earn college credit from many four-year colleges in the US." (WPS, Student Handbook, 2021-2022, p. 70.)

<sup>17</sup> According to both the College Board and WPS, AP students who do not sit for exams still benefit from the instruction and curriculum. However, they automatically miss out on the ability to earn college credit.



**AP PARTICIPATION AT THE  
DISTRICT LEVEL**

**Test-Taking, AY 2007 - AY 2022**

Advanced Placement has long been a part of the curricular offerings at Worcester Public Schools and over the last 16 years, its AP test-taking has increased dramatically. As the chart at the right shows, both the number of tests taken and the number of test-takers have steadily risen since AY 2007. In that year, 522 students took 797 exams.

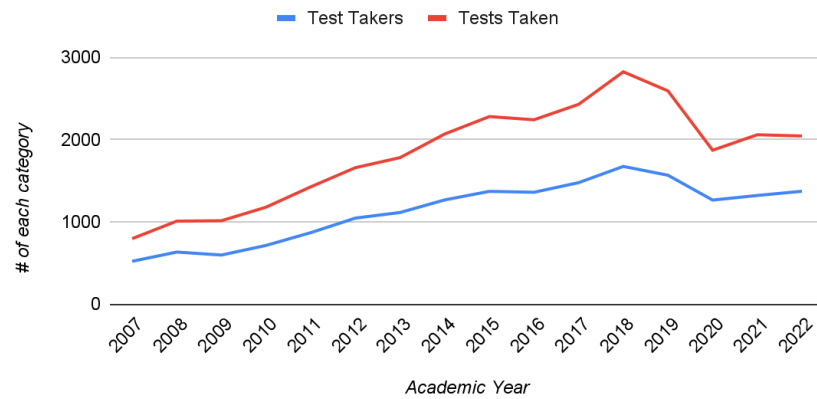
By AY 2018, the high-water mark for AP exams at WPS, 1,675 students took 2,825 AP exams, an increase of over 300%. Even during the pandemic when both numbers decreased, they were nevertheless higher than the AY 2007 numbers: 1,266 students took 1,872 exams in AY 2020. Since the pandemic, the participation numbers have rebounded somewhat although they have not yet returned to pre-pandemic levels.

Enrollment numbers at WPS have been relatively stable during the study period, fluctuating between 22,827 (AY 2008) at the lowest and 25,479 (AY 2017) at the highest points. The AY 2023 enrollment was between the two at 24,318. But the district and the city are experiencing a profound and deepening demographic shift. Over the last 30 years, there have been significant population changes as the city's Latino and Black residents have grown notably which has affected the city's numerical and proportional trends.

These shifts are clearly observable in public school enrollments. In AY 1994 Latino students comprised 24.8% of the district population, but by AY 2023, they were almost the majority of the student body (45.8%). The Black student population has nearly doubled since AY 2007, jumping from 8.9% to 17.1%. The Asian population has remained relatively static, beginning

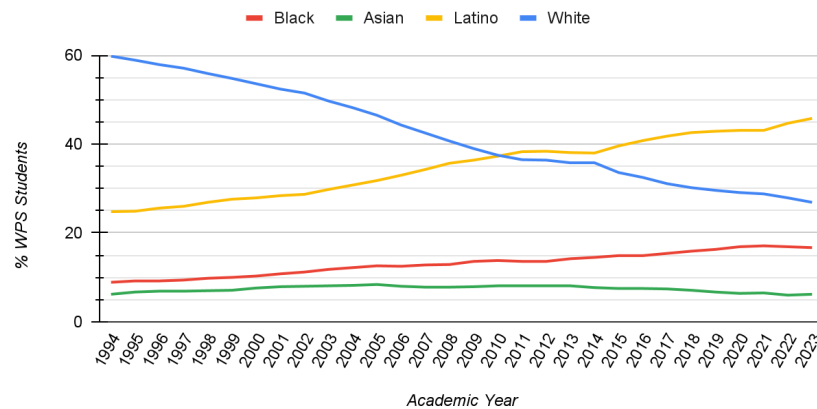
### AP Test Takers and AP Tests Taken

WPS, AY 2007 - AY 2022



### District Enrollment by Race/Ethnicity

WPS, AY 1994 - AY 2023



and ending the study period at 6.2% of all students. But the White student population has taken the opposite turn, declining from 59.8% to 27.9% in the same time frame.<sup>18</sup>

These unprecedented demographic changes, however, did not uniformly affect the schools at the same time. Owing to Worcester’s social geography and WPS’s use of the quadrant system to enroll the most of its schools, the city’s diversification impacted Worcester’s schools differently. For example, while a White student majority

ended at South High before AY 1994, White students remained the majority at Doherty until AY 2008. Two years before that, in AY 2006, South had already progressed to a Latino plurality. By the time Doherty reached a Latino plurality in AY 2022, North had been a Latino *majority* school for three years. This is because the geographic areas from which South and North enroll their students have considerably higher proportions of Latino families than other parts of the city. Doherty, on the other hand, which pulls its students from the whitest areas of the city, saw its first Latino plurality a decade-and-a-half after South, and a dozen years after a district-wide Latino plurality first emerged in AY 2010.

Worcester High School	Last White Majority	First Latino Plurality	First Latino Majority
Burncoat	AY 2005	AY 2014	
Claremont	AY 2007	AY 2007	AY 2007
Doherty	AY 2008	AY 2022	
North	AY 2002	AY 2008	AY 2019
South	Pre-AY 1994	AY 2006	
University Park	AY 2000	AY 2006	AY 2015
Worcester Tech.	AY 2011	AY 2019	

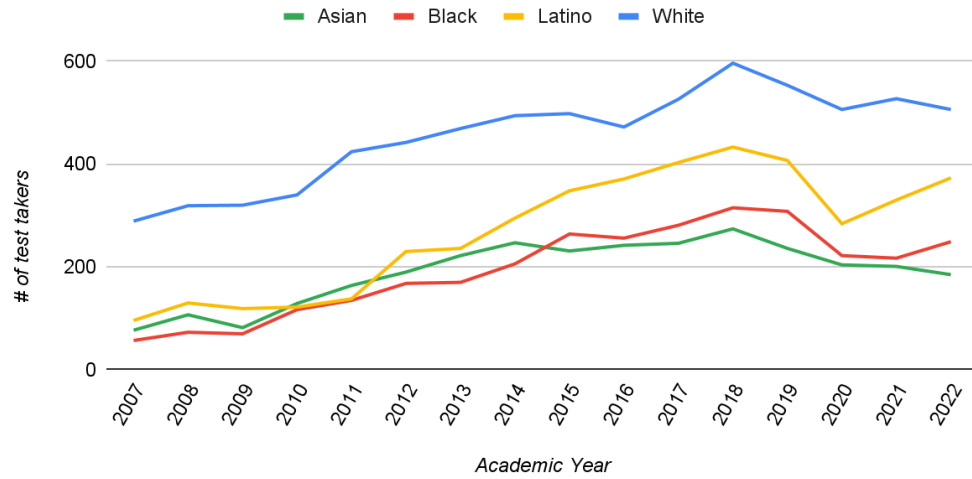
Three WPS high schools are not populated by the dictates of the quadrant system: Claremont Academy, University Park Campus School, and Worcester Technical High School. The first two are small neighborhood schools that offer grades 7-12 and are located in city areas heavily populated by Latino families. Accordingly, they have had Latino majorities since AY 2007 and AY 2015, respectively. The third high school, Worcester Technical High School, is a trade and vocational school similarly outside by the quadrant system’s constructed geographic borders. Its student population most closely mirrors the population of the district as a whole today.

These two simultaneous forces -- the increase in AP testing and demographic changes in the city and schools -- might have been expected to impact the AP exam participation results tremendously. Of course, they did, but not in the ways one might reasonably expect. AP Participation Reports from the state showed that the number of test-takers did not mirror the changes in enrollment. Although there was a rise in test-takers of color, Latino students never surpassed White students in test-taking despite their higher enrollments at the school and district levels. Indeed, by 2008, four of Worcester’s 7 high schools, including 2 of the largest schools, had already reached the moment of Latino

<sup>18</sup> MA DESE, Enrollment Data reports. In AY 2022, the other ethno-racial subgroups constituted the following proportions of the remaining student body: Multi-Race, Non-Hispanic--4.3%; Native American--0.2%; and native Hawaiian, Pacific Islander--0.1%. These groups are not part of the analysis here, however.

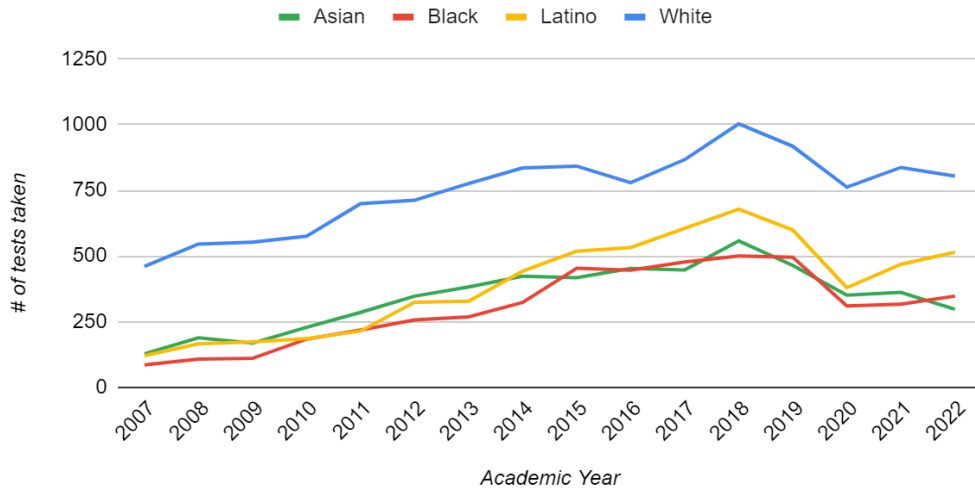
## AP Test-Takers by Race

WPS, All Exams, AY 2007 to AY 2022



## AP Tests Taken by Race

WPS, All Exams, AY 2007 - AY 2022



plurality -- there were more Latino students than students of any other ethnic-racial group at South, North, Claremont, and University Park. Further, all schools except Worcester Tech had lost their White majorities by this time. Meanwhile, from AY 2007 to AY 2022, while the total district student population fluctuated by only 132 students, WPS lost over 3,400 White students and gained over 2,500 Latino students. In the high schools alone, the Latino population jumped 41.1% and the Black population increased 24.6% but the White population dropped by 39.5%. Yet, White students still significantly outnumber all others in test-taking and tests taken. Indeed, in AY 2022, when there were 1,588 more Latino students in Worcester high schools than there were White students, 506 White students took 804 AP exams while 373 Latino students took 514. And of those 373 Latino students, 49 took the AP *Spanish Language & Culture*.

Exploring AP participation at the subject level offers some insights, too.<sup>19</sup> It also raises more questions.

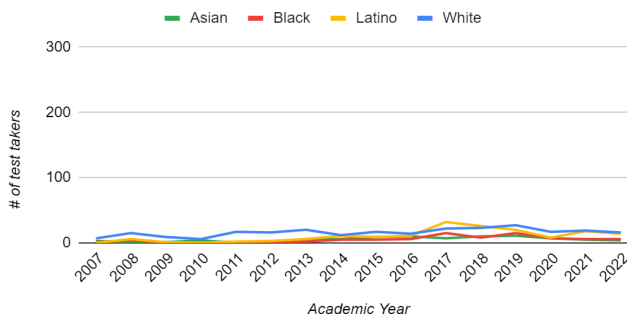
AP exams in the Arts have been the least frequently taken exams in WPS.<sup>20</sup> Since AY 2007, there have been 4 different AP Art exams offered in the district: *AP 2D Design*, *AP 3D Design*, *AP Drawing*, and *AP Music Theory*. The district's AP Arts exams are most frequently administered at 3 high schools: Burncoat, Doherty, and North.

The popularity of English Language Arts exams appears to have declined over time, especially among White students. Of the 2 exams in this area: (*AP English Language & Composition* and *AP English Literature & Composition*), the former is the most frequently taken at WPS.

The History & Social Studies exams are the most popular of the AP tests at WPS recently, followed by Science & Technology tests and then those in the Math & Computer Science subject area.<sup>21</sup> Each of these areas has multiple exams --- in AY 2020 there were 9 in HSS, 6 in Math, and 7 in science -- although not every exam is offered at WPS every year. Participation in History & Social Science exams are witness to the greatest racial disparities of all exam subject areas. In the AY 2021 History &

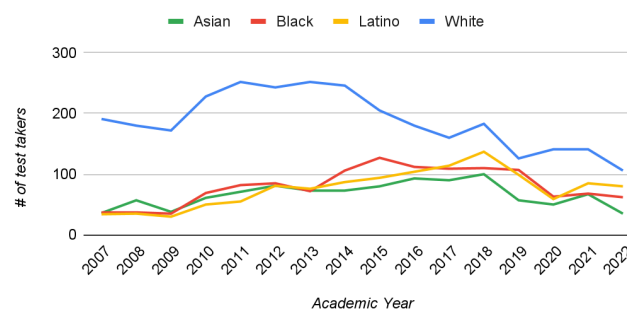
### Test Takers by Race

WPS, Arts Exams, AY 2007 - AY 2022



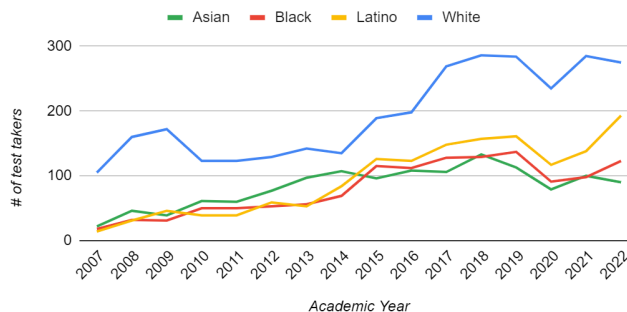
### Test Takers by Race

WPS, English Language Arts Exams, AY 2007 - AY 2022



### Test Takers by Race

WPS, History & Social Science Exams, AY 2007 - AY 2022



<sup>19</sup> Since AY 2007, AP examinations have been divided into 6 major areas -- Arts, English Language Arts, Foreign Languages, History & Social Sciences, Math & Computer Science, and Science & Technology. Each category has multiple tests. A seventh category, Capstone, was available in Worcester Public Schools beginning in AY 2018, but is not considered in this report because there is not enough longitudinal data on it yet.

<sup>20</sup> All tables share the same scale so readers can assess easily which tests are taken in greater numbers by WPS students.

<sup>21</sup> In total, 27.7% of all AP tests administered in WPS since AY 2007 have been in History & Social Science, 22.9% have been in Science & Technology, and 18.7% have been in Math & Computer Science. English Language Arts exams have actually been the second most popular test since AY 2007 (23.1%) but, as noted above, recently fewer students take it.

Social Science exams, for example, White test-takers outnumbered Asian and Black students by a 3-to-1 margin and Latino students by a 2-to-1 margin.

The Science & Technology exams also have notable ethno-racial disparities. In AY 2022, all test-takers of color were outnumbered more than 2-to-1 by White test-takers in the Science & Technology exams. In fact, in all but one of the AP exam areas, White test-takers clearly outnumbered other groups.

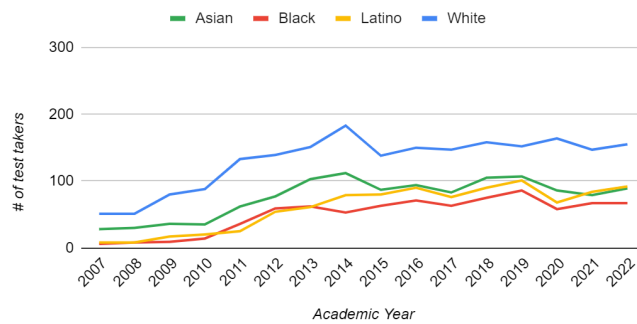
The sole exam category in which a non-White group took more tests than White students is in Foreign Languages, and more specifically the two Spanish Language exams. Exams in this category -- *AP Spanish Language & Culture* and *AP Spanish Literature & Culture* -- dominate the Foreign Language category at WPS. Since AY 2007, they have comprised 97.2% of all AP Foreign Language exams and Latino students are easily the largest test-taking group.<sup>22</sup>

Of the 1,213 times an *AP Spanish Language* exam has been offered at WPS since AY 2007, Latino students took it 82.1% of the time while White students made up 13.8% and other students comprised 4% of the test-takers. As for *AP Spanish Literature*, which has been offered 140 times since AY 2012, Latino students have comprised 97.1% of the overall test-takers.

In fact, were it not for Latino students taking Foreign Language exams, Latino participation in the WPS AP program

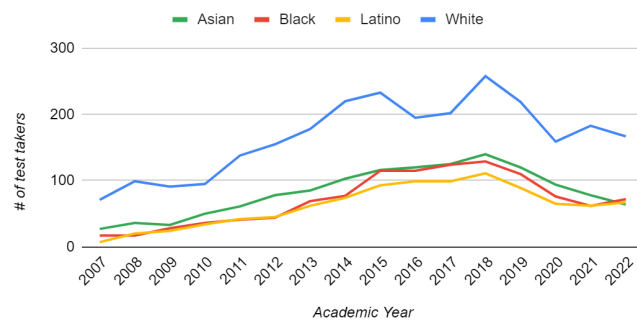
### Test Takers by Race

WPS, Math & Computer Science Exams, AY 2007 - AY 2022



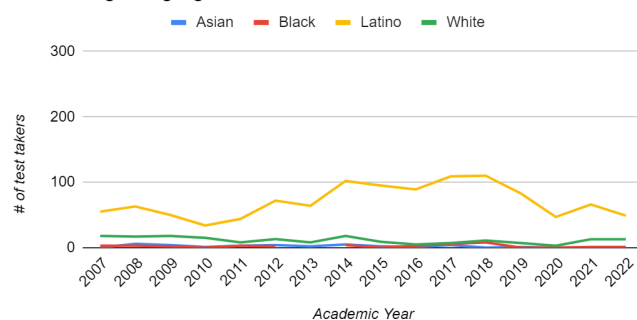
### Test Takers by Race

WPS, Science & Technology Exams, AY 2007 - AY 2022



### Test Takers by Race

WPS, Foreign Language Exams, AY 2007 - AY 2022



<sup>22</sup> The percentage of AP Foreign Language exams at WPS since AY 2007 is: Spanish Language (87.1%), Spanish Literature (10.1%), French Language (2.4%), German Language (0.1%) and Chinese (0.2%).

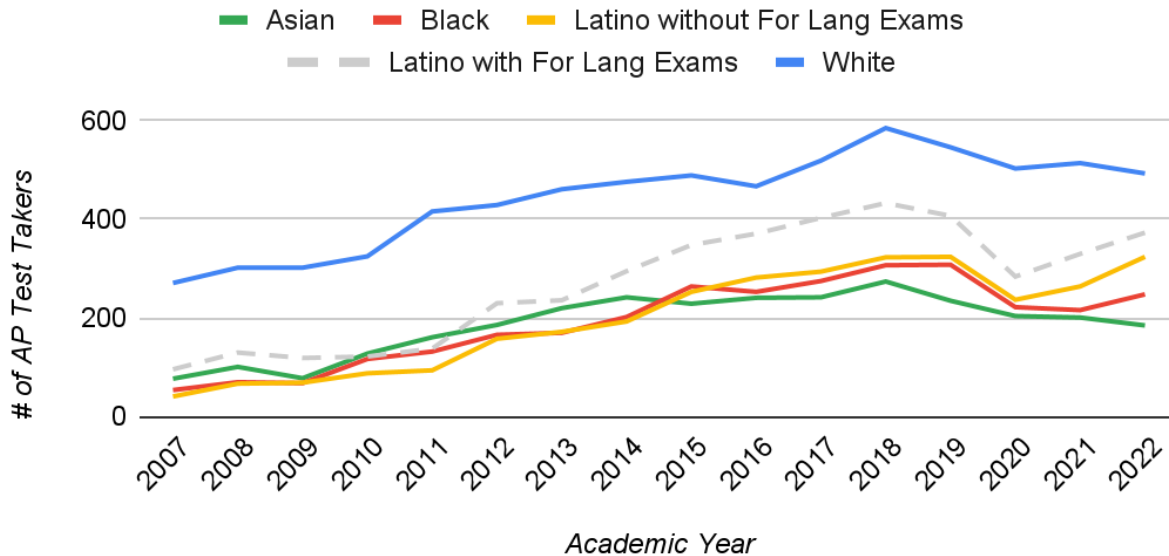
would be significantly less. Were the AP Participation chart at the beginning of this section to be redrawn in a way that excluded Foreign Language exam participation, the result would show a Latino trajectory that would

Total Foreign Language Exams Administered WPS, AY 2007 - AY 2022					
exam name	Asian Students	Black Students	Latino Students	White Students	Total
Spanish Language	22	21	996	168	1,213
Spanish Literature	1	1	136	2	140
French Language	8	14	1	11	34
Chinese Language	1	0	0	2	3
German Language	1	1	0	0	2

closely mirror that of other students of color, further underscoring the stark disparity between students of color and White students in WPS AP testing. Such a redrawn chart (below) shows exactly how the Foreign Language exams skew the Latino AP participation numbers, and it calls into question the equity of AP participation at WPS.

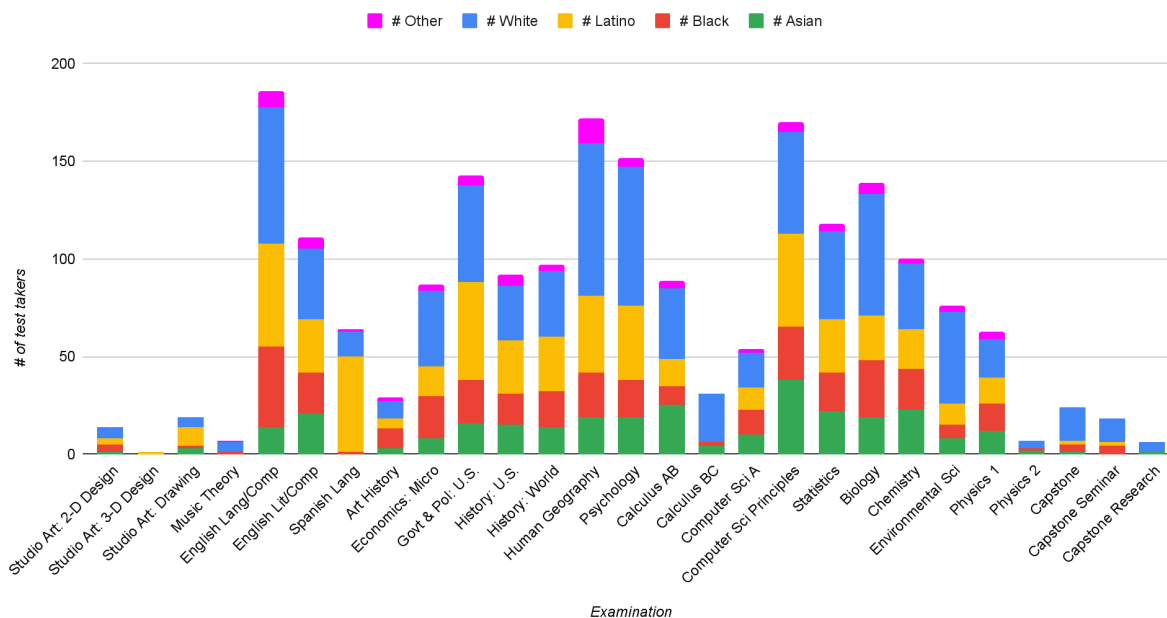
## AP Test Takers by Race -- Redrawn

**WPS, All Exams highlighting For. Lang. impact, AY 2007 - AY 2022**



## # Test Takers by Race by Exam

WPS, 2022, All Exams



This final chart shows the most recent participation results by race for AP Participation at WPS in an exam-by-exam breakdown for the AY 2022 exam cycle. The most popular AP exams in the district were *AP English Language & Composition*, *AP Human Geography*, and *AP Computer Science Principles*. White test-takers were the highest group participating in each of these tests. In fact, of the 27 AP exams offered at WPS in AY 2022, White students were the largest group of test-takers in 22 of them and they tied with Latino students in the AP US Government & Politics exam. Latino students were the largest group in 3 tests: *AP Spanish Language & Culture*, *AP Studio Art: Drawing*, and *AP Studio Art: 3-D Design*, although that exam only had 1 test-taker. In one test, *AP Art History*, had more Black test-takers than any other.

The test with the greatest disparity in AY 2022 was the *AP Calculus BC* exam for which 80% of the test-takers were White, 13% were Asian, 6% were Black, and 0% were Latino.

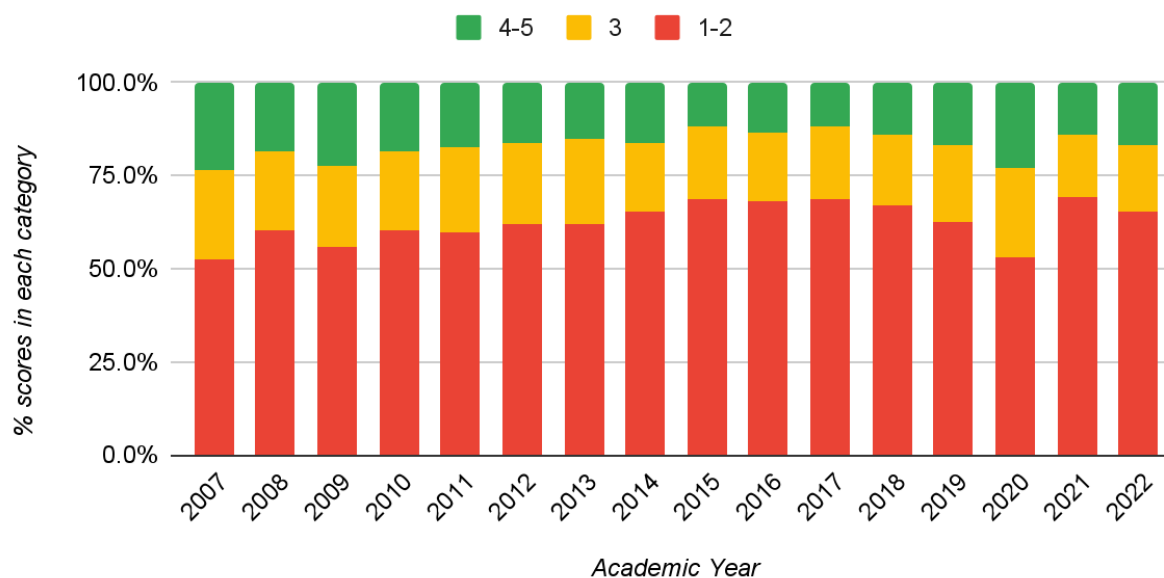


**AP PERFORMANCE AT THE  
DISTRICT LEVEL**

**Test Scores, AY 2007 - AY 2022**

## Advanced Placement Exam Scores

WPS, All AP Exams, All Students, AY 2007 - AY 2022



A difficult fact about AP exams in Worcester’s Public Schools is that a majority of district test-takers do not “pass” their tests and this has been so since AY 2007 at least. There are certainly bright spots in individual subject area tests and at individual high schools. But, overall, most WPS test-takers scored a 1 or 2 on the 5-point exams over the last 16 years. Such a score is considered “not qualifying” by the College Board, it is not a score that can substitute for college credit at America’s institutions of higher education, and it is commonly presented as and understood to be a failing grade, even by test-takers themselves.

On average since AY 2007, 62.6% of all WPS test-takers have failed to achieve a qualifying score on their AP exams. Across the same period, the lowest annual failure rate for all AP exams came in AY 2007 when 52.4% of test takers scored a 1 or 2. By AY 2015, the failure rate had jumped to 68.9% and hovered there until falling slightly to 65.3% in AY 2022 with only one interesting exception. In AY 2020, the pandemic year, the failure rate dropped to 52.8%, which is the closest the district has come to its AY 2007 low. Put succinctly, in the last 16 years, WPS has never had more test-takers earn 3, 4, or 5 than they have had test-takers earn 1 or 2.

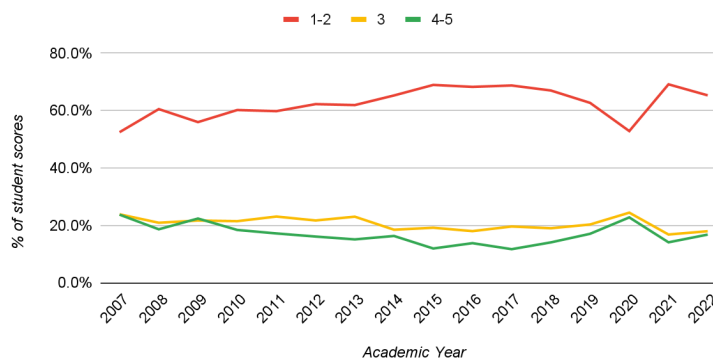
At the other end of the scoring spectrum are those test-takers who earned 4 or 5. On average since AY 2007, 16.9% of students earned these top, college-transferable, scores on the exams. Only 3 times in the last 16 years -- AY 2007 (23.7%), AY 2009 (22.4%), and AY 2020 (22.8%) -- have more than 20% of test-takers earned 4 or 5. In some years, such as AY 2015 and AY 2017, fewer than 12% of test-takers earned these scores.

Between these two poles are students who scored 3 on the AP exams, which is a tricky score to represent. These scores are generally considered passing scores in part because the College Board lists them among the “qualifying” scores and DESE aggregates scores of 3 - 5 in a report that also aggregates scores of 1 - 2. This gives the misleading impression of pass/fail groupings.<sup>23</sup> Yet, scores of 3 *might* be worthy of college course credit depending on the school, and for that reason it makes sense to distinguish them from scores of 4-5. In WPS, on average, 20.6% of students earned scores of 3 on their AP exams since AY 2007. The number was greatest in that year, and it dropped after AY 2013, but, again, took a brief upward spike in AY 2020.

What is especially important to observe in the distribution of scores is the disparity among those who scored 1-2 (not worthy of college credit), 3 (might be worthy of college credit), and 4-5 (likely worthy of college credit). The scores have remained relatively consistent for 16 years. Further, this sort of disparity among AP scores is unfortunately common in Massachusetts’ Gateway Cities. While statewide figures show that most Massachusetts students earned a 3, 4, or 5 on their AP exams, students in the Gateway Cities most often scored 1-2.

### Advanced Placement Exam Scores

WPS, All Exams, All Students, A 2007 - AY 2022



What makes WPS stand out among its peer Gateway City districts here, though, is the large number of exams it administers amid these disparities, which increases the number of failing students. Part of this has to do with it being the second largest school district in the state. But even then, Springfield, the third largest, with only 10.6% fewer students, administered 47% fewer exams. In fact, the WPS AP testing rate among its students is 8.4%, twice that of the average testing rate of other Gateway City school systems with more than 10,000 students (4.2%).<sup>24</sup> In short, because WPS administers more AP exams in a situation where most students fail, it has exponentially more AP failures.<sup>25</sup>

<sup>23</sup> DESE also reports AP scores on a 5-point scale, which allows researchers here to separate the 3 scores from the 1-2 and the 4-5 to better understand this borderline score that is considered “qualifying” or passing, but is not always worth college credits.

<sup>24</sup> The list of Gateway City schools with more than 10,000 public school district students is: Worcester, Springfield, Lynn, Brockston, Fall River, Lawrence, Lowell, and New Bedford.

<sup>25</sup> The democratization of AP exams is a national phenomenon pushed, in part, by the College Board itself to address criticisms of elitism. But this process has also exposed serious equity gaps in AP testing and high school learning. As a 2021 Washington Monthly article concluded, the College Board’s attempt at “expanding Advanced Placement was supposed to reduce racial disparities in college” had not worked, and that, worse still, “It’s had the opposite effect.”

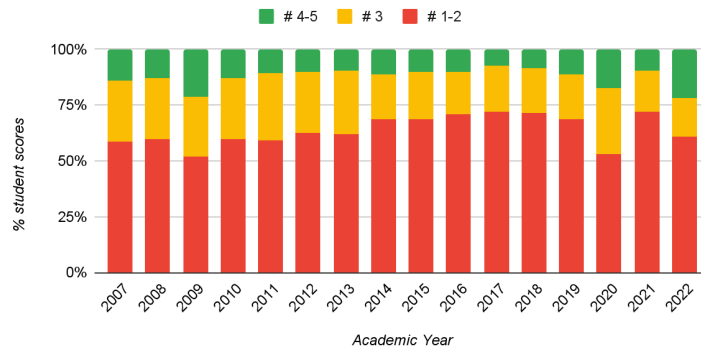
Consequently, when WPS or the high schools celebrate high achievers, they tell much less than half the story. For instance, Doherty High, on its own AP website apart from the main WPS site, noted that in its AY 2022 AP exams, “14 students earned an AP Scholar with Honor award, and 10 others earned an AP Scholar with Distinction award.<sup>26</sup> While such honors are laudable, 282 (58%) of all Doherty test-takers that year actually failed outright by scoring 1 or 2. And even at that, Doherty was still ahead of the district -- the system-wide results showed that in that year, 65.3% of test-takers scored 1 or 2.

Scores on the individual subject tests also suggest the WPS problems related to AP exam pass/fail disparities are widespread. Arts AP exams show that only a small percentage of test-takers (13.6% on average) have scored 4-5, but a larger group than in any other subject exam (37.6% on average) have scored 3 points. The fail rate, those test-takers who scored 1 or 2, is below the WPS average at 48.8%, which means on average, most Arts AP students passed their AP exams. Yet, these are among the least taken exams.

In the English Language Arts exams, WPS students did about as well as they did on other subject tests: not once in the 16-year study window did

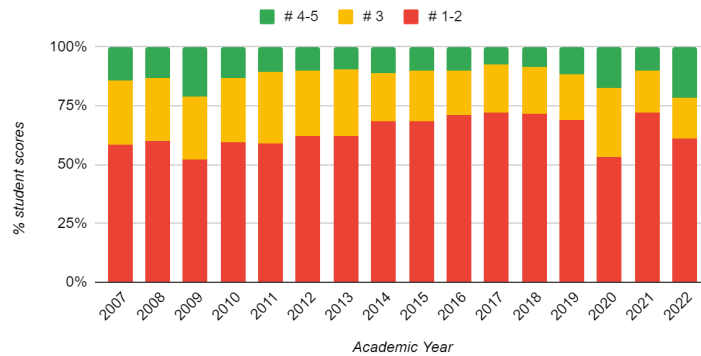
### Advanced Placement Exam Scores

WPS, English Language Arts Exams, All Students, AY 2007 - AY 2022



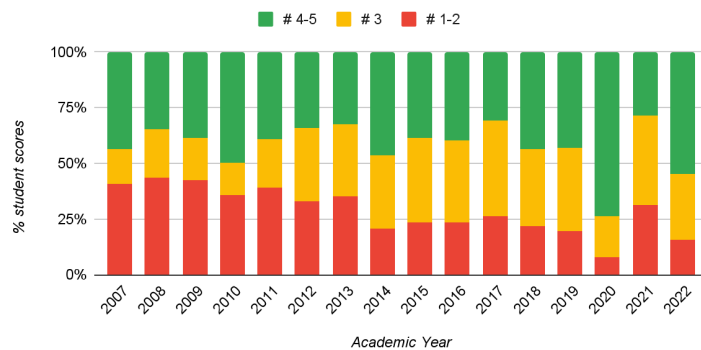
### Advanced Placement Exam Scores

WPS, English Language Arts Exams, All Students, AY 2007 - AY 2022



### Advanced Placement Exam Scores

WPS, Foreign Language Exams, All Students, AY 2007 - AY 2022



<sup>26</sup> [Doherty High, AP website](#). (accessed March 3, 2023). *AP Scholar* awards are given to test-takers who receive scores of 3 or higher on 3 or more AP exams; *AP Scholar with Honors* awards are for test-takers whose average scores are at least 3.25 on 4 or more AP exams; and *AP Scholar with Distinction* awards are earned by students whose average scores are 3.5 on 5 or more AP exams.

the majority of ELA test-takers “pass” the exam more than they “failed” it. Averages over the study period were: 12.5% of test-takers scored 4-5, 23.8% scored 3, and 63.7% scored 1- 2.

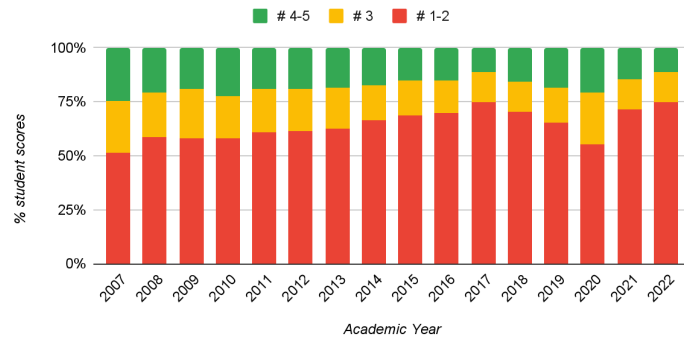
Test-taker performance on the Foreign Language exams is anomalous, which likely has to do with the overwhelming number of Latino students (more than 83%) taking the Spanish Language Arts exams. It is perhaps unsurprising, then, that this AP test boasts the greatest percentage of 4-5 scores in the district with 42% of test-takers earning top scores, 29.2% scoring a 3, and only 28.7% scoring 1 or 2. Importantly, only the Spanish Language exams have such high Latino participation at WPS.

The History & Social Science AP exams have given WPS test-takers a lot of trouble, especially recently. During the study period only 17.7% on average earned 4-5 scores, and in two years (AY 2017 and AY 2022) only 11% of test takers did. The average failure rate on these tests was 64.2%, and 18% of test-takers earned a score of 3. The overall trend, as with ELA exams, shows an increased failure rate over time.

The AP Math & Computer Science exams follow a similar track. Across the period, test-takers fared better in the earlier years of the study than in the later years, the pandemic year notwithstanding. Averages in these AP

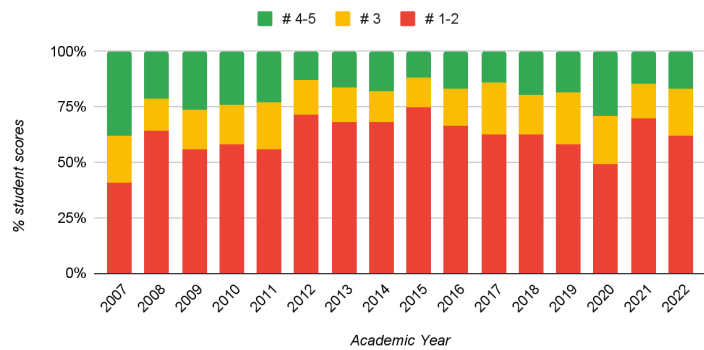
### Advanced Placement Exam Scores

WPS, History & Social Science Exams, All Students, AY 2007 - AY 2022



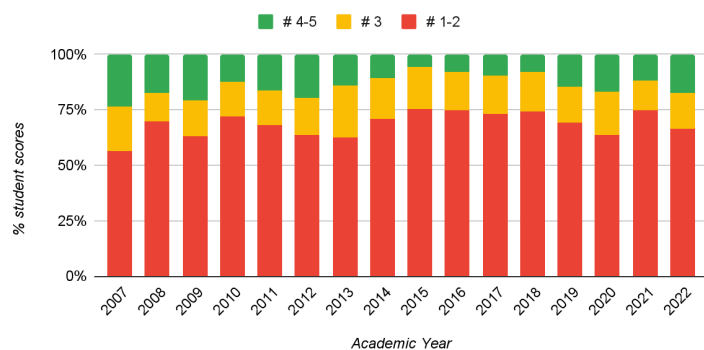
### Advanced Placement Exam Scores

WPS, Math & Computer Science Exams, All Students, AY 2007 - AY 2022



### Advanced Placement Exam Scores

WPS, Science & Technology Exams, All Students, AY 2007 - AY 2022



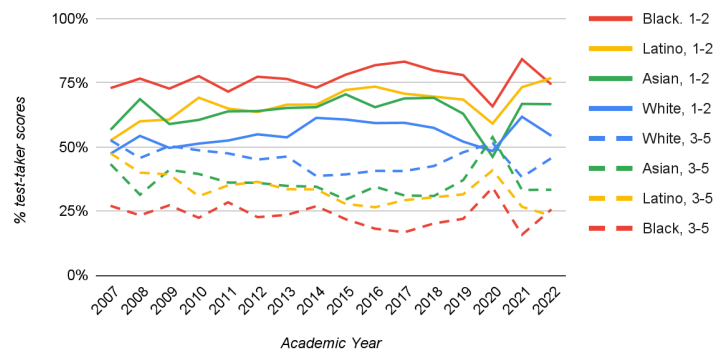
exams are: 20.1% of test-takers scored 4-5, 18.2% scored 3, and 61.7% scored 1-2. In only one year, AY 2007, did more students pass than fail.<sup>27</sup>

The Science & Technology exams, unfortunately, are mostly reiterations of the other WPS test-taking stories. First, most students do not pass. On average, 68.6% of test-takers scored 1-2 since AY 2007. In the nine years since AY 2014, 6 have seen failure rates at or above 70%. About 14% of test-takers on average earn 4-5, although that number has gone as low as 6% - 8% (AY 2015, AY 2016, and AY 2018). Students who earn 3 constitute 17.3% of the total on average.

Just as there were issues of equity surrounding AP participation at WPS, there are also issues with AP performance. The top-right chart can help visualize the situation. It illustrates the “passing” and “failing” scores by year for WPS’ major ethno-racial groups. The solid and dashed lines of each group are mirror images of each other with the solid lines charting a group’s failure rate and the dashed line plotting its pass rate. The middle or inside lines are both blue indicating that White test-takers failed less (solid blue line) and passed more (dashed blue line) than other groups on AP exams. Conversely, Black test-takers, who are most frequently found on the outside lines, both pass AP exams least frequently (dashed red line) and fail more frequently (solid red line) than other groups. The bottom-right omits the Foreign Language tests, and as with the participation data, it shows how Latino test-takers align closely with Black test-takers to form the outside margin.

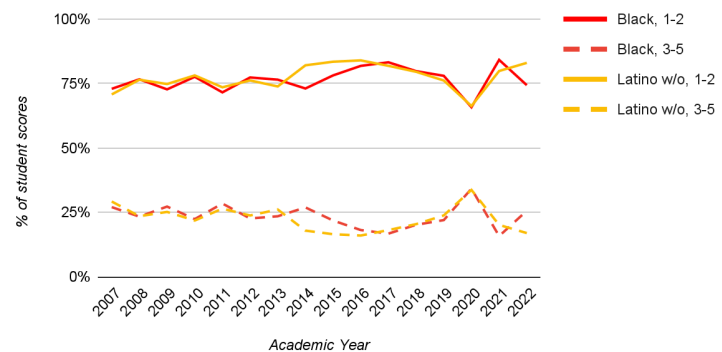
### AP Performance by Race

WPS, All Exams, AY 2007 - AY 2022



### AP Performance by Race

WPS, All Exams except Foreign Lang, Black and Latino Students, AY 2007 - AY



Another important use of the chart at the top is to glimpse the relative persistence of each group’s scoring over time. Since AY 2008, the year AP testing began to rise sharply in WPS, most groups

<sup>27</sup> All performance data comes from the annual DESE School Profiles *Advanced Placement Performance Report, All Students* for the WPS district.

saw little movement in their pass/fail ratio.<sup>28</sup> The chart at the right displays the 1-2 point scoring percentage on all AP tests from each main ethno-racial group. Generally, the positive trend would be to see this number decrease over time, which would show that fewer students scored 1-2 and, conversely, more scored 3-5. The least stable group is Latinos, which has over the course of the period seen a rise in its failure rate. But it is also important to note the movement among all other groups, too, because there is little to no change. Asian and Black test-takers improved slightly. But White test-takers did worse in AY 2018 then reversed only to arrive back at nearly the same point.

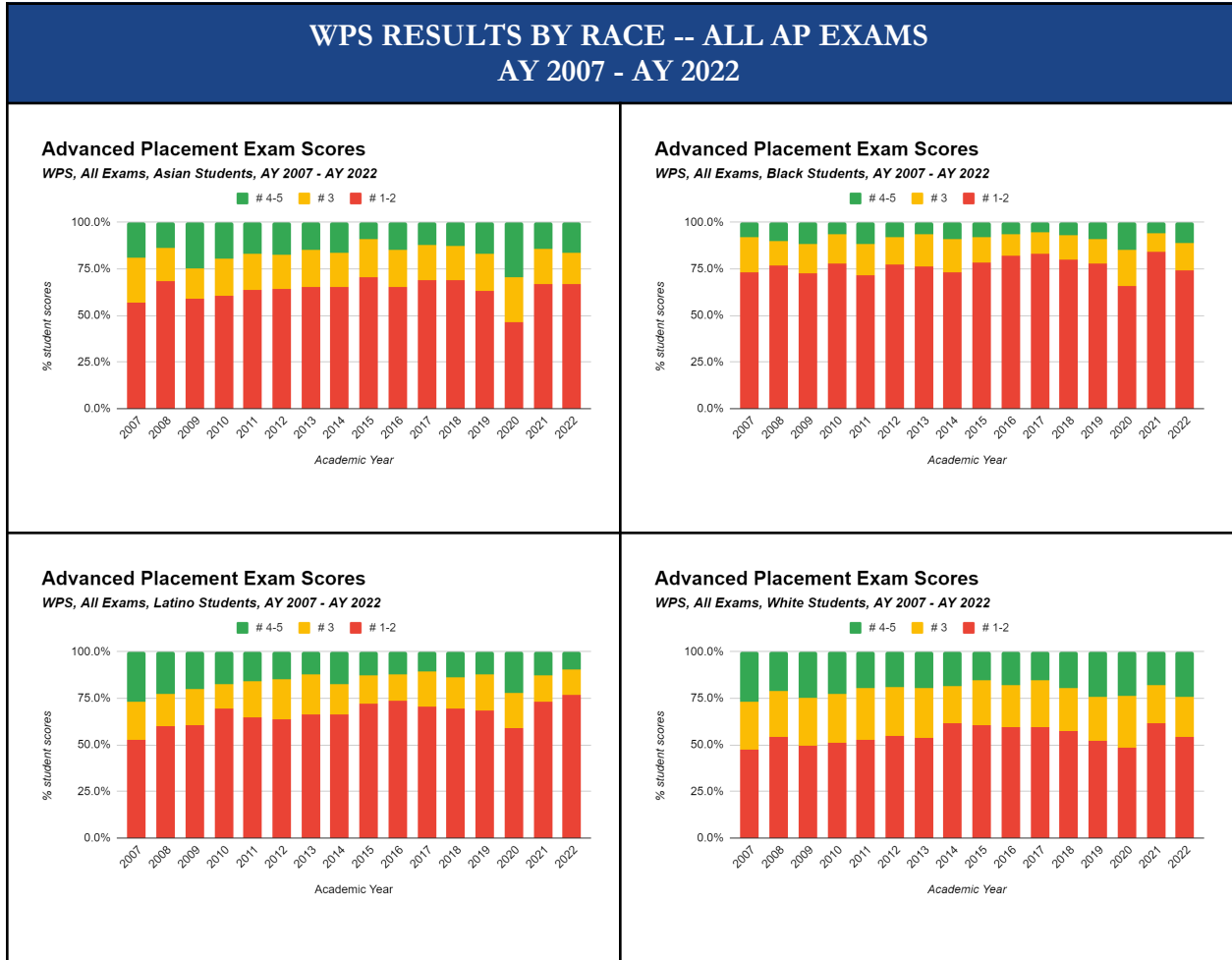
AP Performance by Race % of groups scoring 1-2			
	2008	2018	2022
Asian	68.6	69.1	66.7
Black	76.6	79.8	74.4
Latino	60.0	69.6	76.8
White	54.3	57.4	54.4




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<sup>28</sup> AY 2008 was selected in the chart because that was the first year that the AP program had begun to intentionally expand; AY 2018 is the year that the most AP exams were administered at WPS during the study period; and AY 2022 was the most recent year exams were administered.

A series of tables follows. Each set shows the exam performance in AP subject areas by race. The color scheme remains the same as in earlier tables -- red for 1-2, yellow for 3, and green for 4-5.

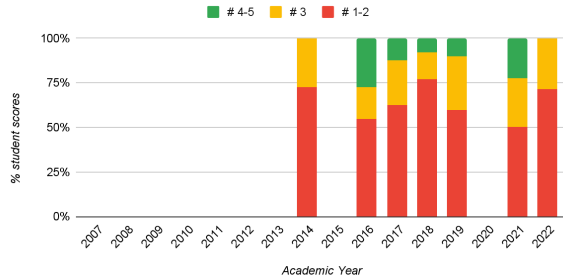




## WPS RESULTS BY RACE -- ARTS AP EXAMS AY 2007 - AY 2022

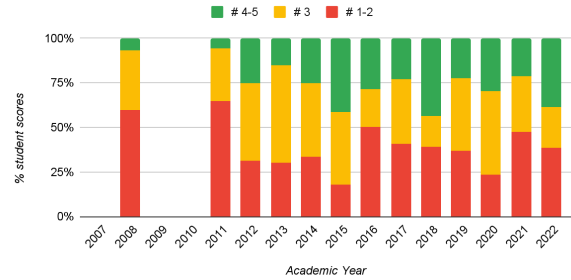
### AP Test Scores

WPS, Arts Exams, Latino Students, AY 2007 - AY 2022



### AP Test Scores

WPS, Arts Exams, White Students, AY 2007 - AY 2022

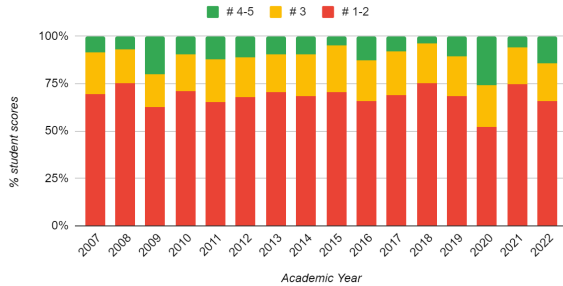


*Note: In years with no data, fewer than 10 people from that specific race took this subject exam that year. DESE does not report data for such a small sample. If a table or data for a particular group does not appear, there was not enough data reported by DESE to create a table.*

## WPS RESULTS BY RACE -- ENGLISH LANGUAGE ARTS AP EXAMS AY 2007 - AY 2022

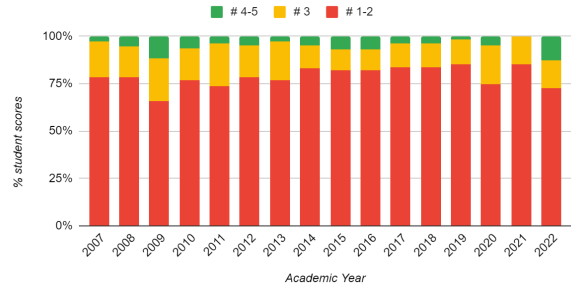
### Advanced Placement Exam Scores

WPS, English Language Arts Exams, Asian Students, AY 2007 - AY 2022



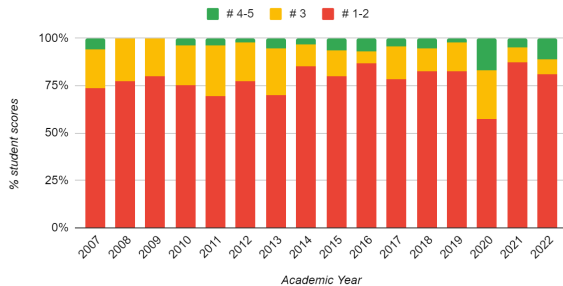
### Advanced Placement Exam Scores

WPS, English Language Arts Exams, Black Students, AY 2007 - AY 2022



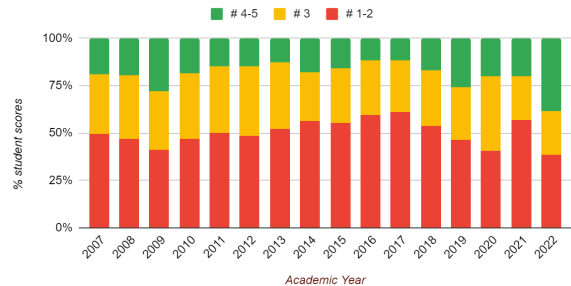
### Advanced Placement Exam Scores

WPS, English Language Arts Exams, Latino Students, AY 2007 - AY 2022



### Advanced Placement Exam Scores

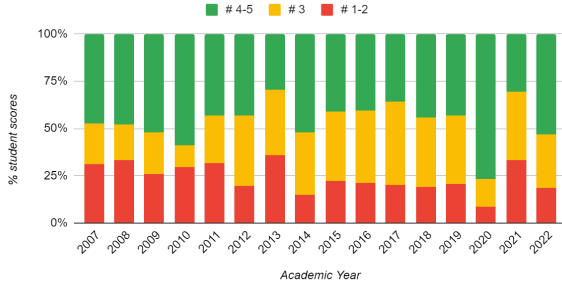
WPS, English Language Arts Exams, White Students, AY 2007 - AY 2022



## WPS RESULTS BY RACE -- FOREIGN LANGUAGE AP EXAMS AY 2007 - AY 2022

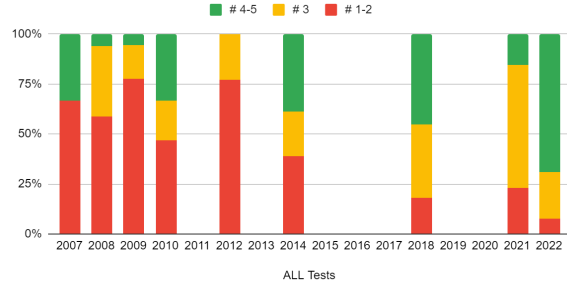
### Advanced Placement Exam Scores

WPS, Foreign Language Exams, Latino Students, AY 2007 - AY 2022



### Advanced Placement Exam Scores

WPS, Foreign Language Exams, White Students, AY 2007 - AY 2022

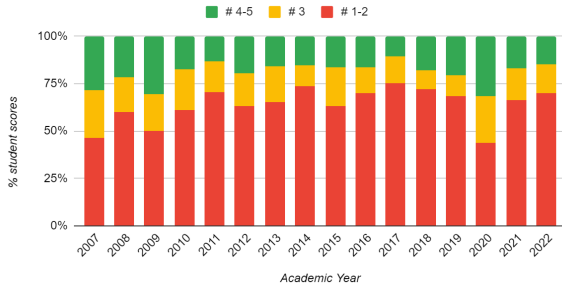


*Note: In years with no data, fewer than 10 people from that specific race took this subject exam that year. DESE does not report data for such a small sample. If a table or data for a particular group does not appear, there was not enough data reported by DESE to create a table.*

## WPS RESULTS BY RACE -- HISTORY & SOCIAL SCIENCE AP EXAMS AY 2007 - AY 2022

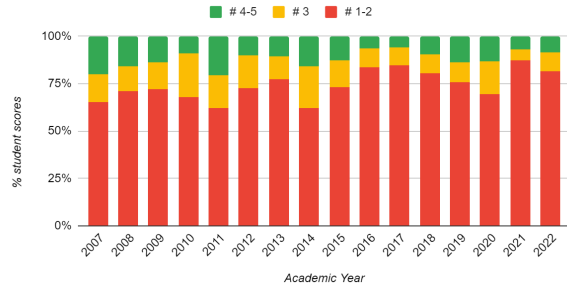
### Advanced Placement Exam Scores

WPS, History & Social Science Exams, Asian Students, AY 2007 - AY 2022



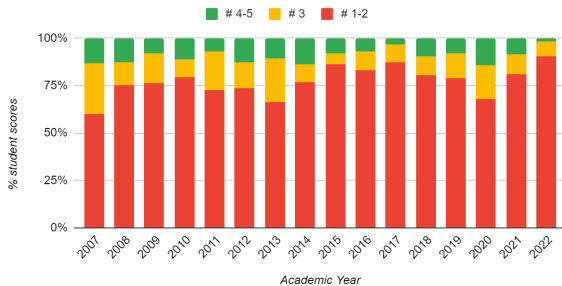
### Advanced Placement Exam Scores

WPS, History & Social Science Exams, Black Students, AY 2007 - AY 2022



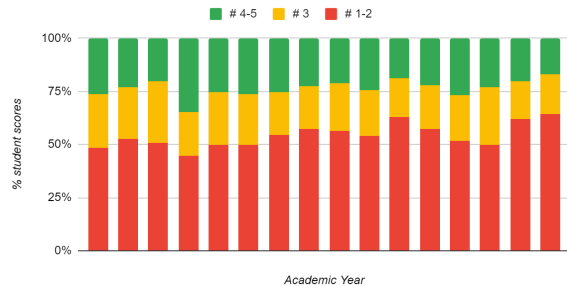
### Advanced Placement Exam Scores

WPS, History & Social Science Exams, Latino Students, AY 2007 - AY 2022



### Advanced Placement Exam Scores

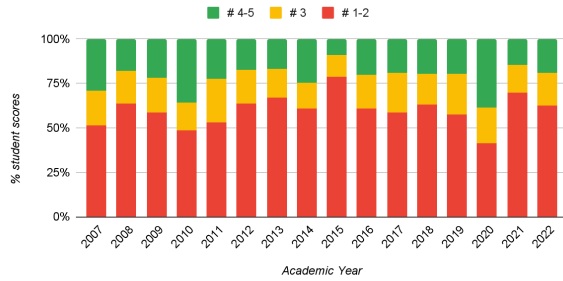
WPS, History & Social Science Exams, White Students, AY 2007 - AY 2022



## WPS RESULTS BY RACE -- MATH & COMPUTER SCIENCE AP EXAMS AY 2007 - AY 2022

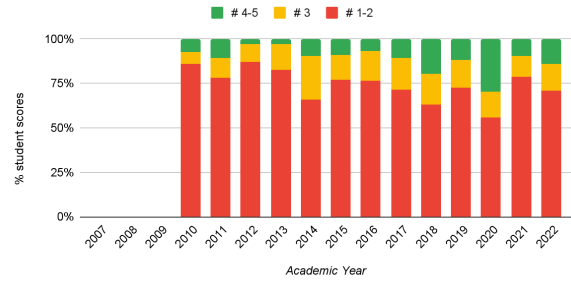
### Advanced Placement Exam Scores

WPS, Math & Computer Science Exams, Asian Students, AY 2007 - AY 2022



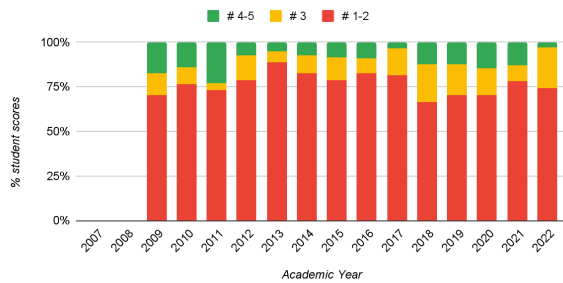
### Advanced Placement Exam Scores

WPS, Math & Computer Science Exams, Black Students, AY 2007 - AY 2022



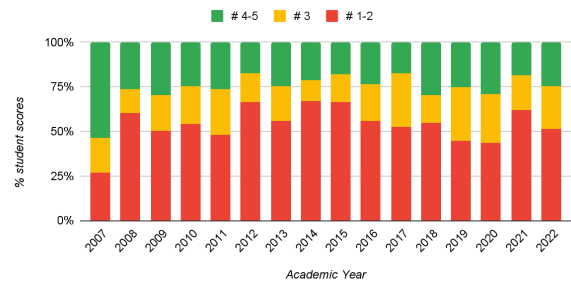
### Advanced Placement Exam Scores

WPS, Math & Computer Science Exams, Latino Students, AY 2007 - AY 2022



### Advanced Placement Exam Scores

WPS, Math & Computer Science Exams, White Students, AY 2007 - AY 2022

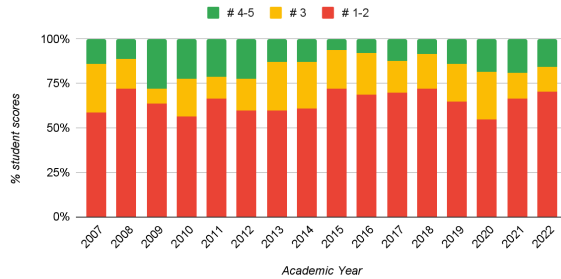


*Note: In years with no data, fewer than 10 people from that specific race took this subject exam that year. DESE does not report data for such a small sample. If a table or data for a particular group does not appear, there was not enough data reported by DESE to create a table.*

## WPS RESULTS BY RACE -- SCIENCE & TECHNOLOGY AP EXAMS AY 2007 - AY 2022

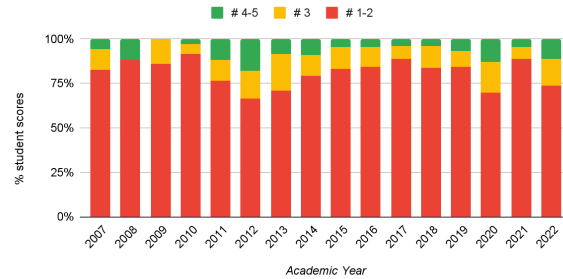
### Advanced Placement Exam Scores

WPS, Science & Technology Exams, Asian Students, AY 2007 - AY 2022



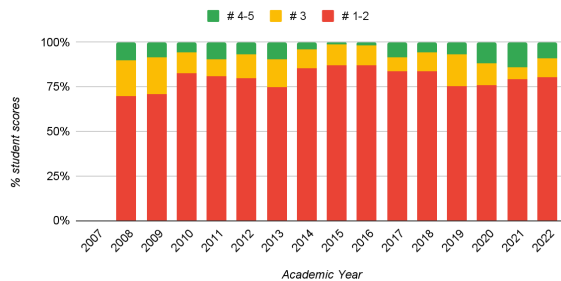
### Advanced Placement Exam Scores

WPS, Science & Technology Exams, Black Students, AY 2007 - AY 2022



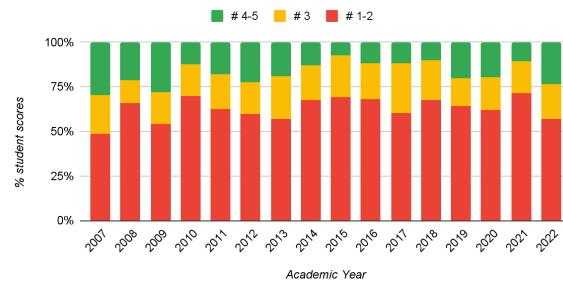
### Advanced Placement Exam Scores

WPS, Science & Technology Exams, Latino Students, AY 2007 - AY 2022



### Advanced Placement Exam Scores

WPS, Science & Technology Exams, White Students, AY 2007 - AY 2022



*Note: In years with no data, fewer than 10 people from that specific race took this subject exam that year. DESE does not report data for such a small sample. If a table or data for a particular group does not appear, there was not enough data reported by DESE to create a table.*

Collectively, the subject test results provide a window into a couple of larger concerns. One is a question of academic excellence that is usually associated with Advanced Placement programs. It seems clear that AP exam-taking in WPS is only a measure of academic excellence insofar as it applies to individual students who score well. Clearly students can achieve excellence through the program. But is a program that has more students earning failing scores than passing scores aptly called a program of academic excellence?

Second, the performance data combined with the participation data suggest that simply expanding AP offerings does not necessarily lead to greater results overall. WPS's experience proves other national models: that offering more tests to more students can increase high scores. However, it also proves that doing so simultaneously and exponentially increases the number of students earning non-qualifying scores. AY 2007, 189 WPS students had earned 4-5 on the AP exams while 190

earned 3 and 418 earned 1-2.<sup>29</sup> A decade later, in AY 2018, the numbers had grown to 397, 246, and 1,474 respectively. Yet, because there was a 2,028 exam increase in tests taken over the period, there were many more failures than there were passes. So, while WPS could (and did)

AY	Score 1-2	Score 3	Score 4-5	Score 3-5
2007	418	190	189	379
2018	1,892	536	397	933
# increase	1,474	346	208	554
% increase	353%	182%	110%	146%

report a rise in qualifying scores, it did far less to publicly acknowledge that for approximately every 1 student who scored a 4 or 5, 3-and-a-half students scored a 1-2 in AY 2018.

Given that WPS has such a large and continuing number of low scores -- in AY 2022 alone, 1,355 students scored a 1 or 2 -- it is natural to wonder about the impact on students' college going plans. After all, Advanced Placement tests purport to be equivalent to college classes. Yet, if a student cannot "pass" an AP exam under the more controlled environment of a high school classroom, what impact does it have on a student's desire and confidence needed to pursue a college education. The impact(s) that failing an AP exam has on students is the subject of a second report following this one, a qualitative study already underway that looks at how, if at all, failing AP exams affects student perceptions of themselves and their perceptions of their own academic futures.

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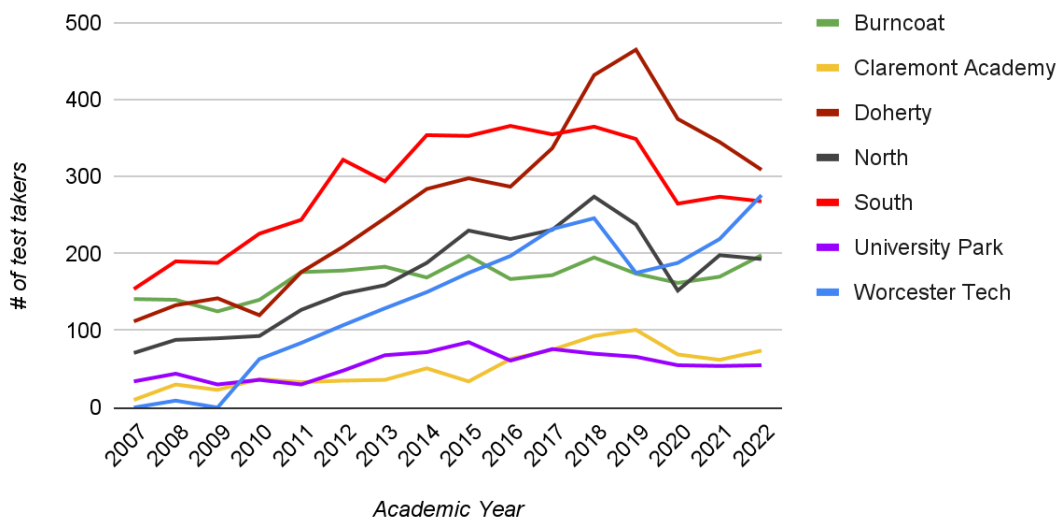
<sup>29</sup> In AY 2007, 125 students scored a 4 and another 64 students earned a 5. In AY 2018, 261 students earned 4 and 136 students earned 5. In AY 2007, 169 students scored a 1 and 249 students earned a 2 on their AP exams.

## **RESULTS BY HIGH SCHOOL**

The remainder of this report seeks to more comprehensively understand WPS AP participation and performance at the school level. Accordingly, what follows are statistics and short narratives for each of Worcester’s seven district public high schools. They are arranged in alphabetical order: Burncoat Senior High School, Claremont Academy, Doherty Memorial High School, North High School, South High Community School, University Park Campus School, and Worcester Technical High School. Researchers often use shortened colloquial names to refer to each. (e.g. South High Community School becomes South High.) The charts on this and the next page break down the data related to test-takers and tests taken by school, over time, and cumulatively.

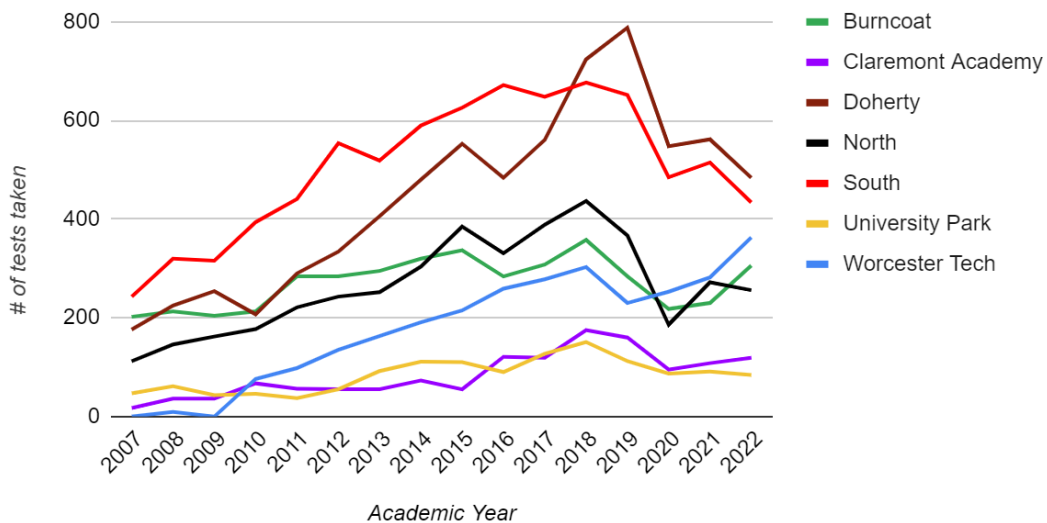
## AP Test Takers by School

WPS, AY 2007 to AY 2022



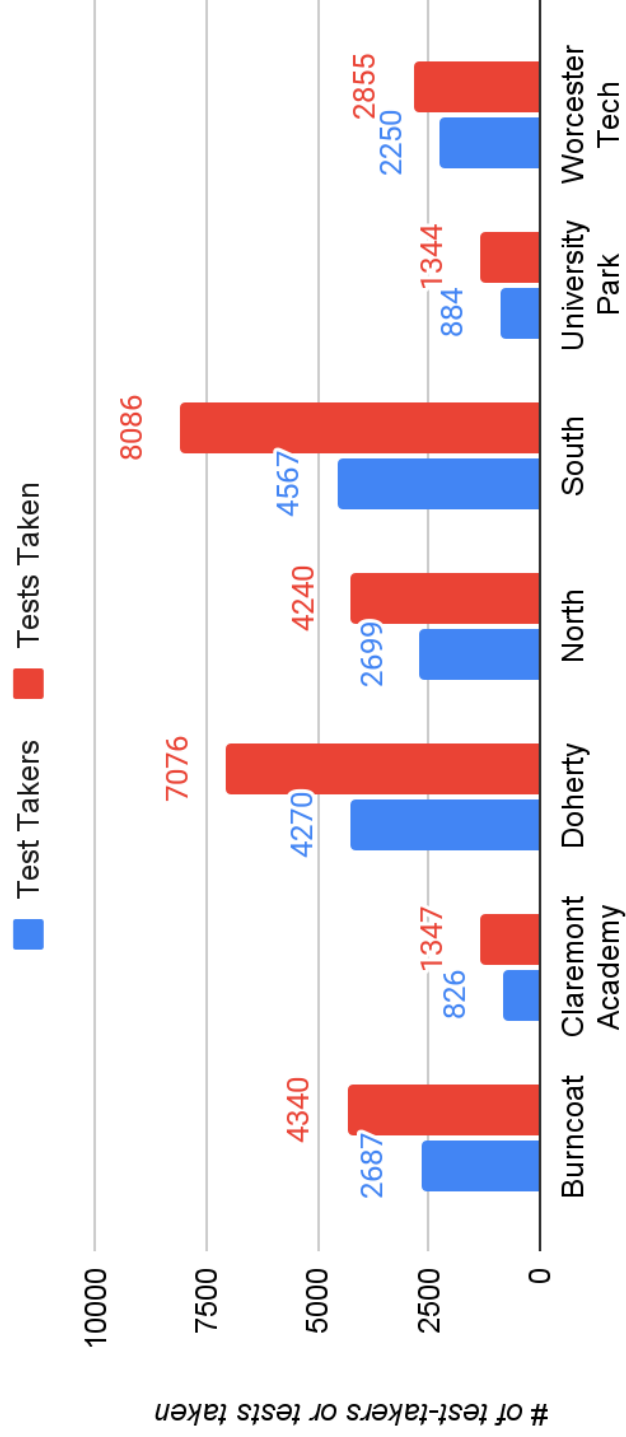
## AP Tests Taken by School

WPS, AY 2007 - AY 2022



# Total AP Participation by School

WPS, AY 2007 - AY 2022



WPS High School



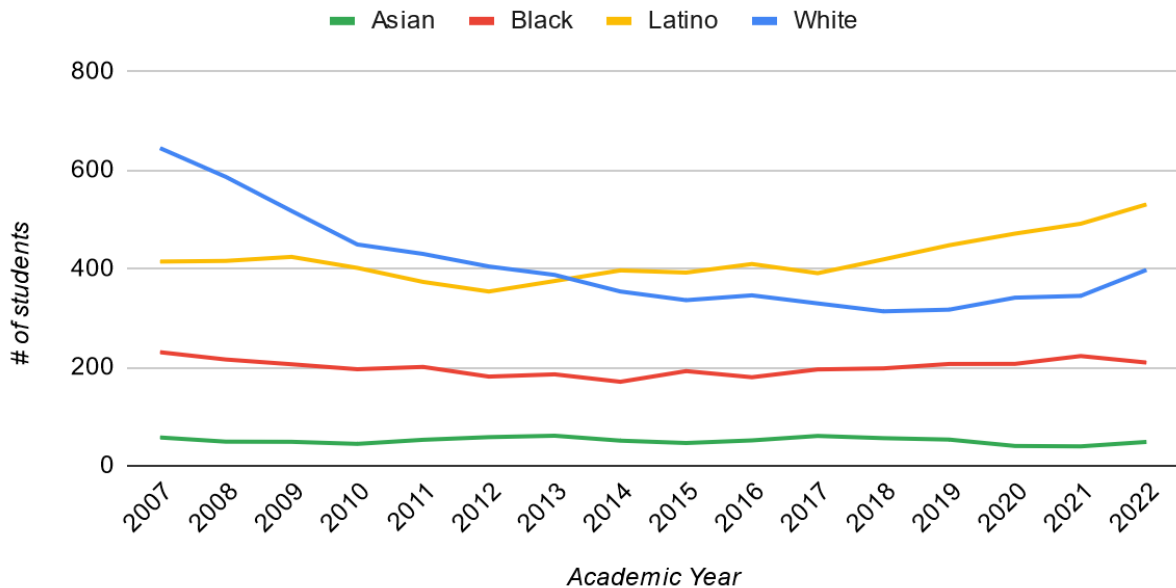
# Burncoat Senior High School

With a total student population of 1,176 in AY 2022, Burncoat Senior High is the smallest of the four main comprehensive public high schools, and the fifth largest WPS school overall.<sup>30</sup> Located in the northern part of the city, its demography is similar to that of the other comprehensive high schools: Latino students (45.1%), White students (28.4%), Black students (17.8%), and Asian students (4.1%).

The chart below shows Burncoat’s enrollment pattern since AY 2007. The moment at which it became a Latino plurality school, AY 2014, was later than the same moments at South and North, but earlier than those at Doherty and Worcester Tech.

## Student Population by Race

*Burncoat, AY 2007 - AY 2022*

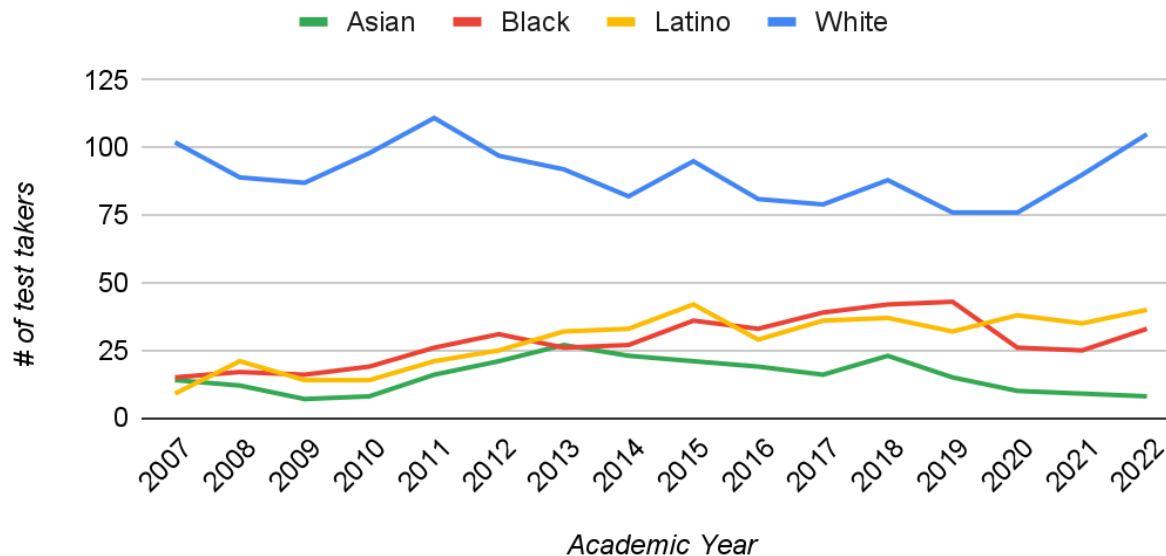


Burncoat’s AP program was once among the largest in the city -- in AY 2007, only South’s program was larger. For a few years after that, Burncoat and Doherty grappled for the second spot, but by AY 2012, Burncoat’s program plateaued as Doherty’s advanced. For much of the last decade, Burncoat and North High have traded the third and fourth spots. In AY 2022, Burncoat students comprised the third highest number of test-takers and fourth highest number of tests taken among the large comprehensive high schools.

<sup>30</sup> DESE [“School Profiles” for Burncoat Senior High.](#)

# AP Test Takers by Race

*Burncoat, All AP Exams, AY 2007 - AY 2022*



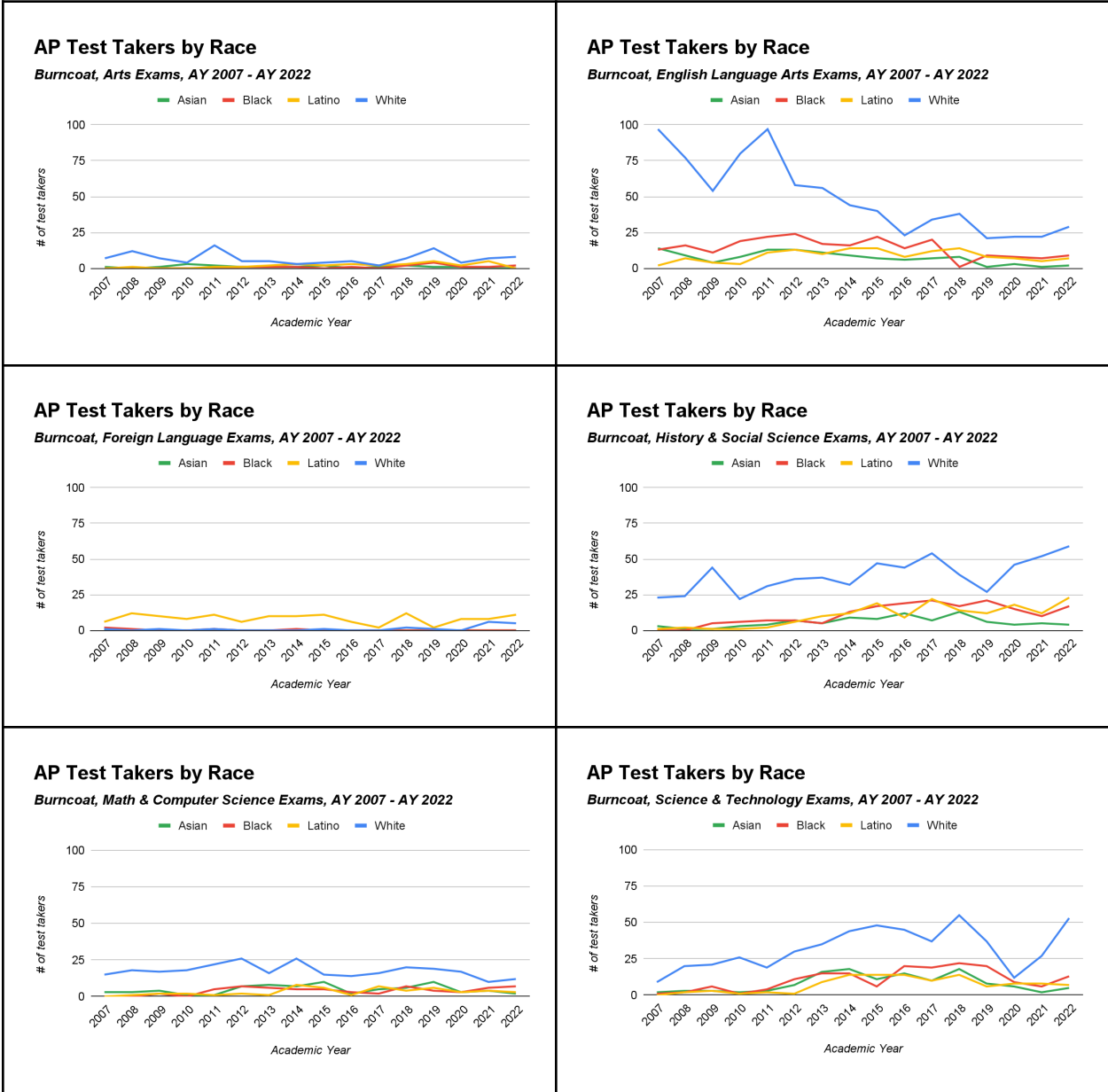
Like many of the other public high schools in Worcester, there is a substantial ethno-racial gap in Burncoat AP exam test-taking between White students and students of color. White students take AP exams 3-to-4 times more than students from other backgrounds, even though Latino students have outnumbered White students at Burncoat since AY 2013.

Burncoat’s most popular subject areas recently are History & Social Science and Science & Technology. They are especially popular among White test-takers. Participation in the Math & Computer Science areas, while never high, is lower recently than it has been in the past. English Language Arts exams have dropped significantly over the study period, but they are still a popular test taken at Burncoat. Foreign Language exams, which are mainly Spanish exams, are low in frequency and taken most by Latino students. Finally, participation in Art exams is low, which is surprising given Burncoat’s reputation as an arts-focused school.



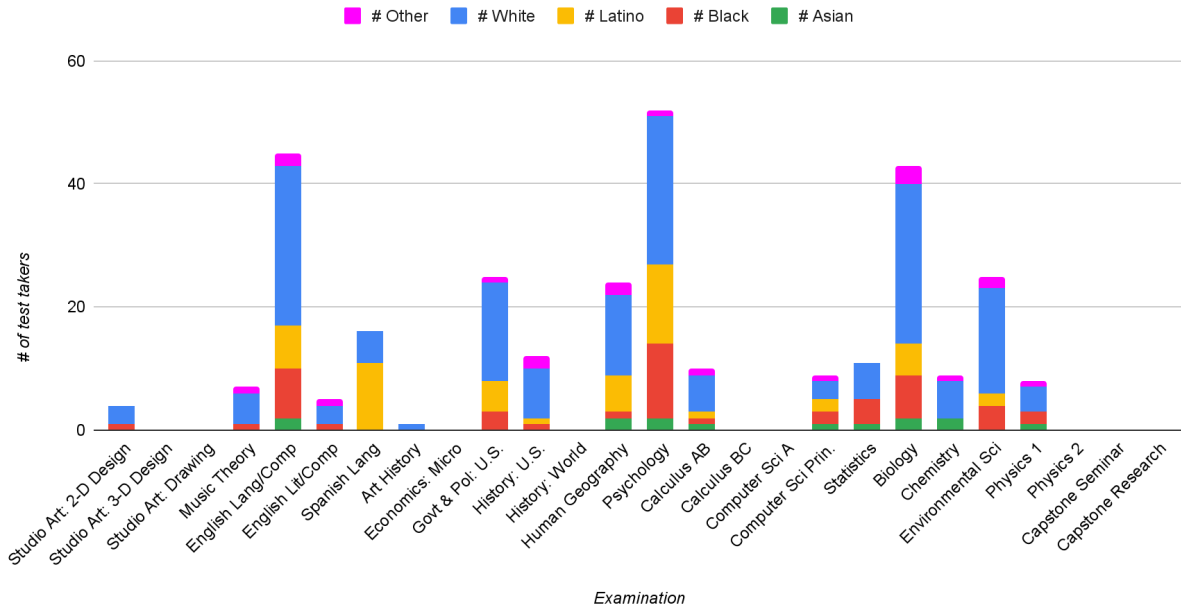
# Burncoat Senior High School

## *AP Participation by Race and Subject Area*



## # Test Takers by Race by Exam

Burncoat, 2022, All Exams

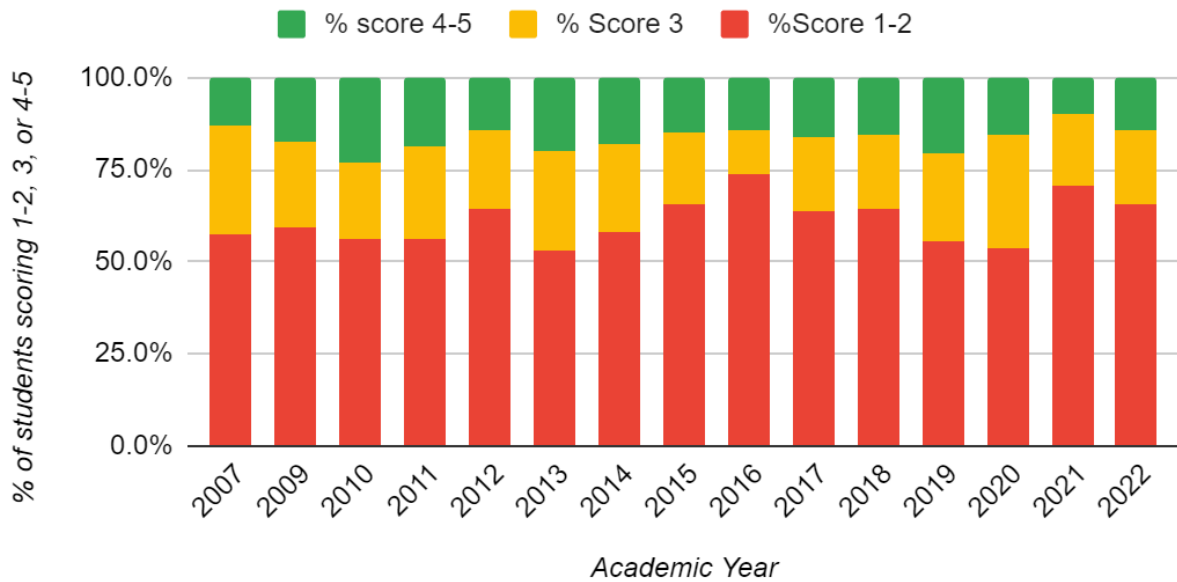


The chart above shows the Burncoat AP exam participation by test for AY 2022. The most popular AP exams at this school that year were *AP Psychology*, *AP English Language & Composition*, and *AP Biology*. Empty columns indicate that while the test was administered in WPS last year, it was not reported as having been taken by any Burncoat students and was likely not offered there.

The chart also displays the ethno-racial backgrounds of the test-takers by each AP exam. With the single exception of the *AP Spanish Language & Culture* exam, White students predominated in every test offered at Burncoat.

# AP Scores

**Burncoat, All Students, All Subjects, AY 2007 - AY 2022**



Overall, the AP Scores at Burncoat Senior High School followed many of the district trends closely. Like the district as a whole, more Burncoat test-takers failed their AP exams (by scoring a 1 or 2) than passed them (by “qualifying” with a score of 3, 4, or 5). The highest pass rate came in AY 2013 when 46.8% of test-takers earned a 3, 4, or 5. In AY 2022, the pass rate at Burncoat was 34.6%.

As to the highest scores that are more regularly accepted for college credit, only 16% of students on average scored a 4 or 5. Since the pandemic year, 9.6% (AY 2021) and 14.1% (AY 2022) have earned these scores.

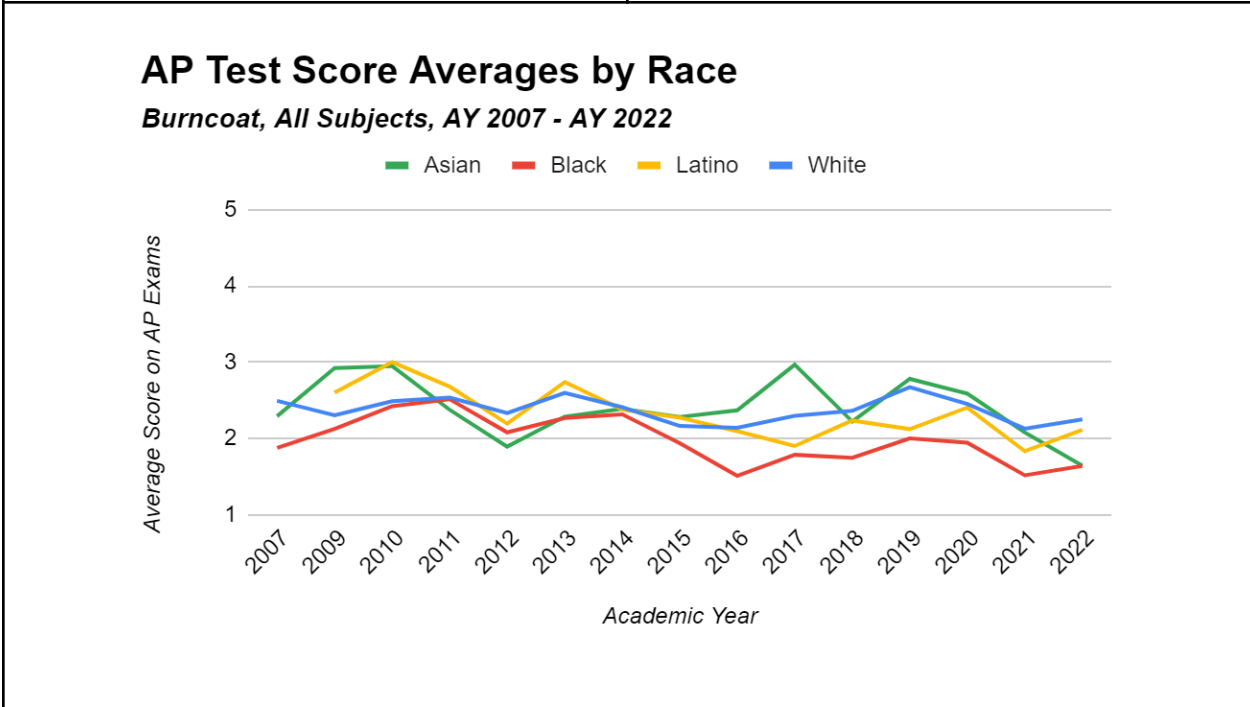
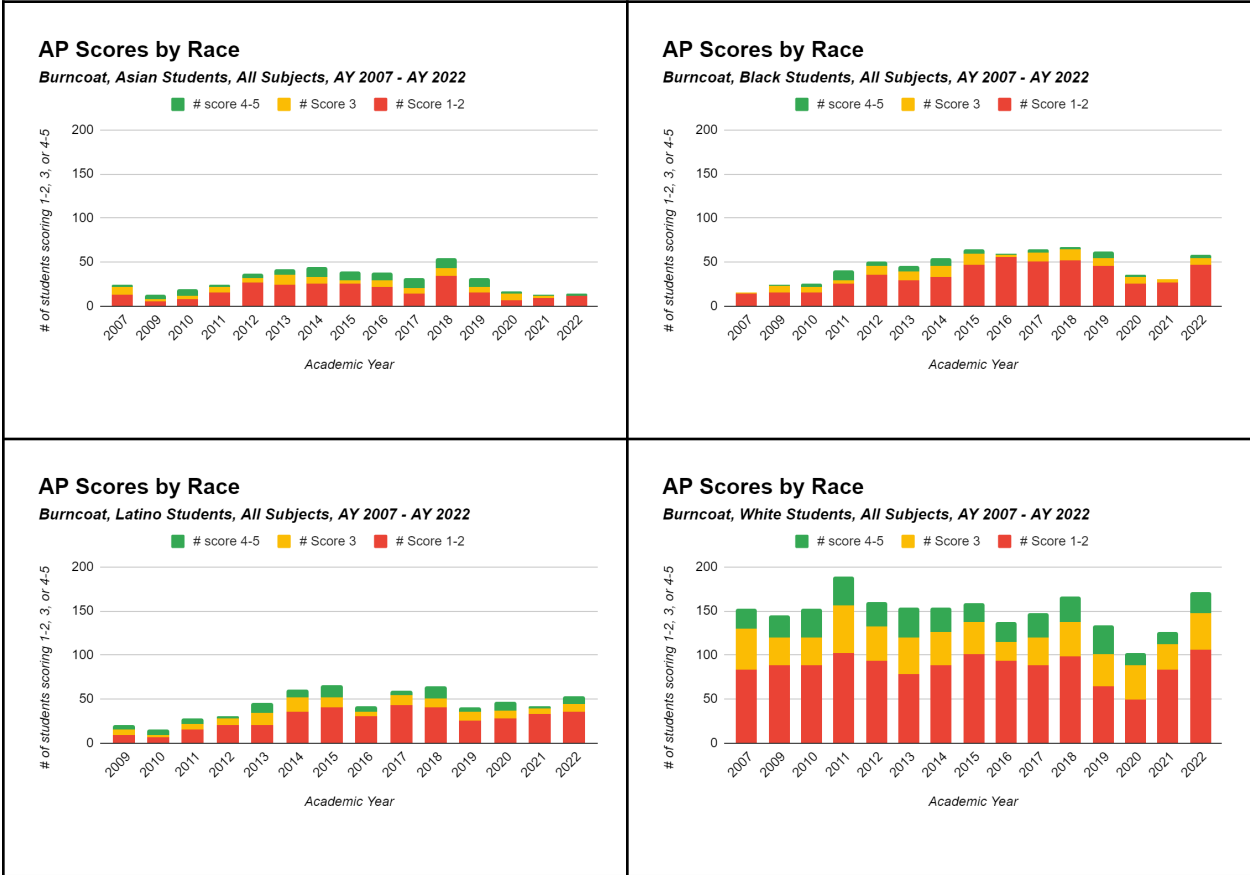
# Burncoat Senior High School

## AP Performance by Subject Area



# Burncoat Senior High School

## *AP Performance by Race*



# Claremont Academy

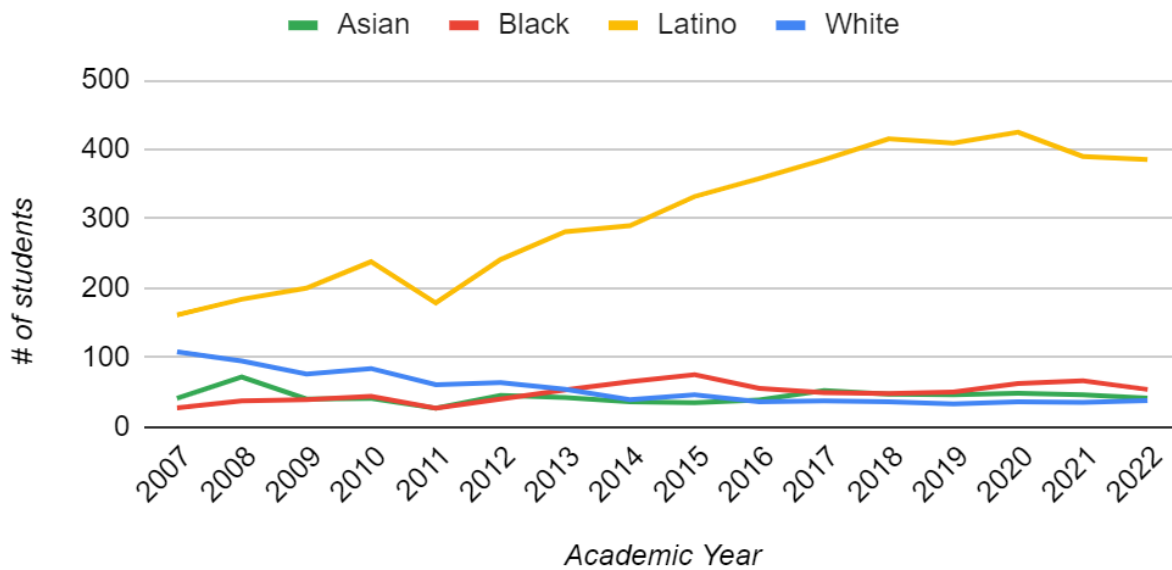
Claremont Academy is one of two neighborhood public schools in Worcester that enroll grades 7-12. (The other is University Park Campus School.) Both serve residents of Main South and the student bodies of both have a majority of Latino students. The school has grown since AY 2007. In that year, it had 351 students and its Latino enrollment was 45.9% while the second largest group, White students, comprised 30.8%. In AY 2022, there were 527 students, of which 73.1% were Latino but today Black students make up the second largest group at 10.2%.

The AP program at Claremont Academy is small and focused. Since AY 2007, AP test-takers at this school account for 4.5% of district AP exam takers and 4.6% of the district's AP exams taken. There is an obvious and prominently placed link for AP on the WPS page dedicated to the school although the information is



## Student Population by Race

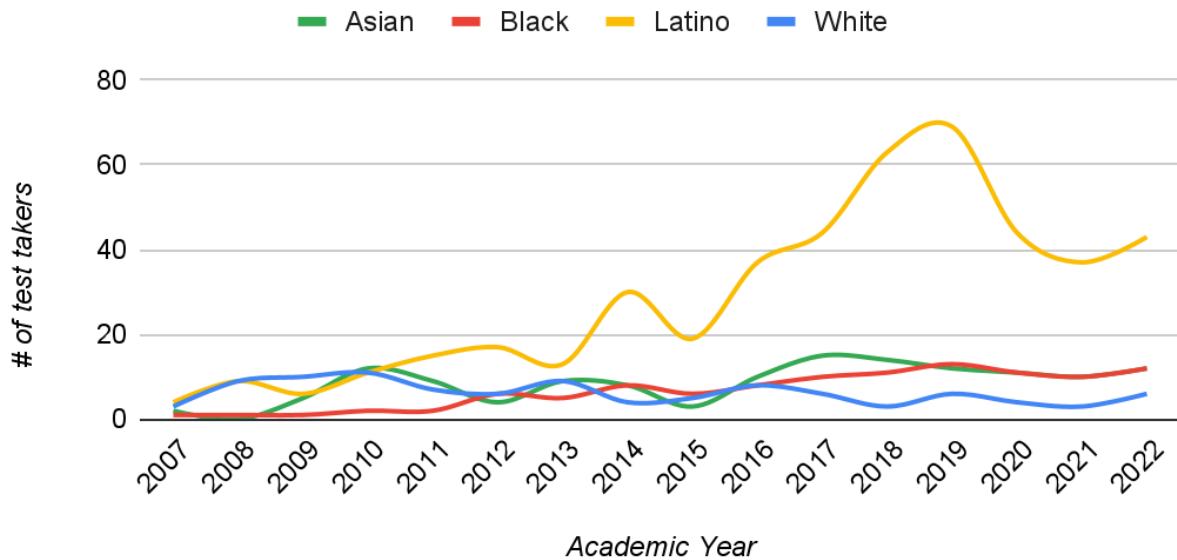
*Claremont, AY 2007 - AY 2022*





## Test Takers by Race

### Claremont, All AP Exams, AY 2007 - AY 2022



out-of-date as of this writing.<sup>31</sup> Claremont's *School Acceleration and Accountability Action Plan* for 2021-2022 specifically notes that the school uses Title IV money to pay for AP test fees of students.

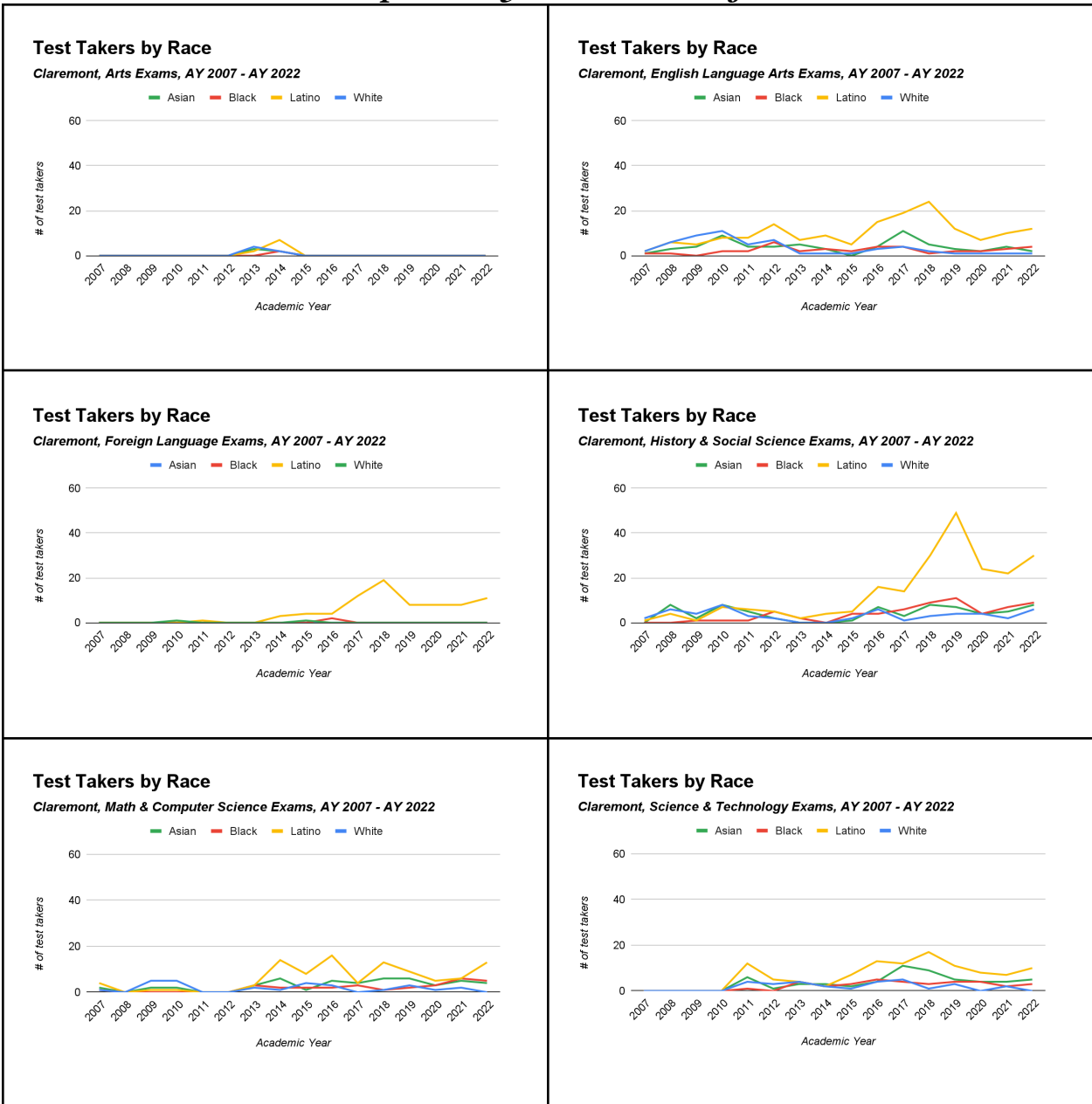
Although not a perfect reflection, Claremont's AP exam enrollment reflects more accurately the demographic composition of the school than the participation levels of most other WPS high schools. Latinos, who account for 73.1% of the student population in AY 2022, took 53% of its AP exams. The school's Black students, who totaled 10.2% of the student body, took 16% of the tests; Asian students also took 16% of the tests and they comprised 7.8% of all students. Finally, White students, who account for 7.2% of the Claremont students in AY 2022 sat for 8% of its AP exams.

The AP exam results by subject area show that the History & Social Science area had the most test-takers by far. Foreign Language exams, which were exclusively Spanish exams, were also almost exclusively taken by Latino students. And, apart from a handful of tests in the 2010s, Arts AP exams were not offered at Claremont Academy.

<sup>31</sup> <https://worcesterschools.org/school-subpage/claremont-ap/> (accessed January 14, 2023)

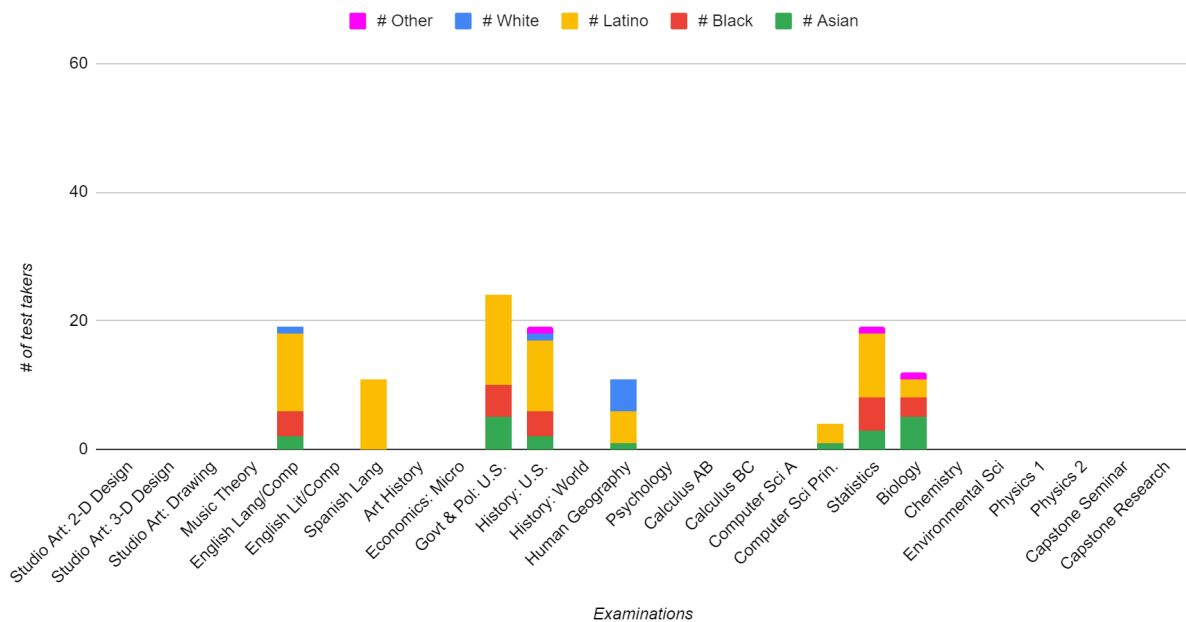
# Claremont Academy

## AP Participation by Race and Subject Area



## # Test Takers by Race by Exam

Claremont, 2022, All Exams

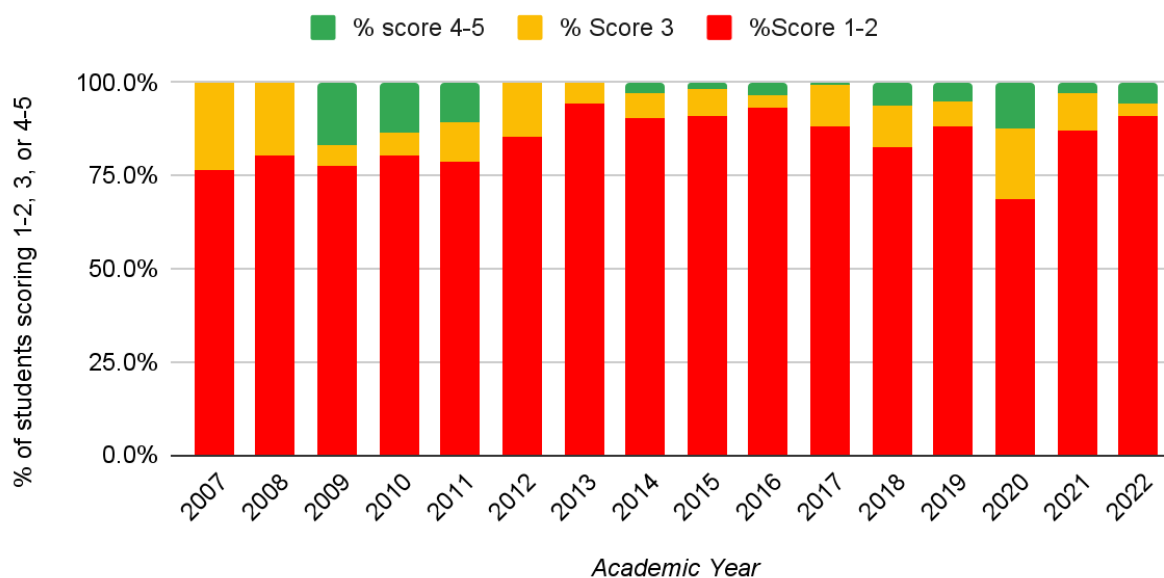


In AY 2022, the most popular AP exams at Claremont were: *AP US Government & Politics* and a three-way tie with *AP Statistics*, *AP US History*, and *AP English Language & Composition*. That year, 24 students took the government test and 19 took each of the other three. In total, there were 8 different AP exams in 5 subject areas offered at this school last year.



## AP Scores

Claremont, All Subjects, All Students, AY 2007 - AY 2022



From the data that is available, one major fact is obvious: Claremont's AP passing rates are not encouraging. Since AY 2007, far more Claremont test-takers have failed their AP exams than they have passed them, and in all but one year the failure rates were above 75%.<sup>32</sup> In fact, over the last 16 years, Claremont students failed their AP exams an average of 84.6% of the time. Conversely, they earned scores of 4 or 5, those scores most commonly accepted for college credit, only 5.1% of the time on average.

There are some holes in the Claremont subject area data in that the columns of some years are empty. This is because there were years in which no students took particular exams, for example, in the Arts. Or there are also gaps when fewer than 10 students took any given exam because DESE does not publicly report data samples of that size. Cross-referencing scores with the participation information earlier in this section shows that the data holes are not especially problematic.

The three years of data on the Foreign Language exams, once again, mainly Spanish tests, indicate that this was the area Claremont students did best. All test-takers were Latino.

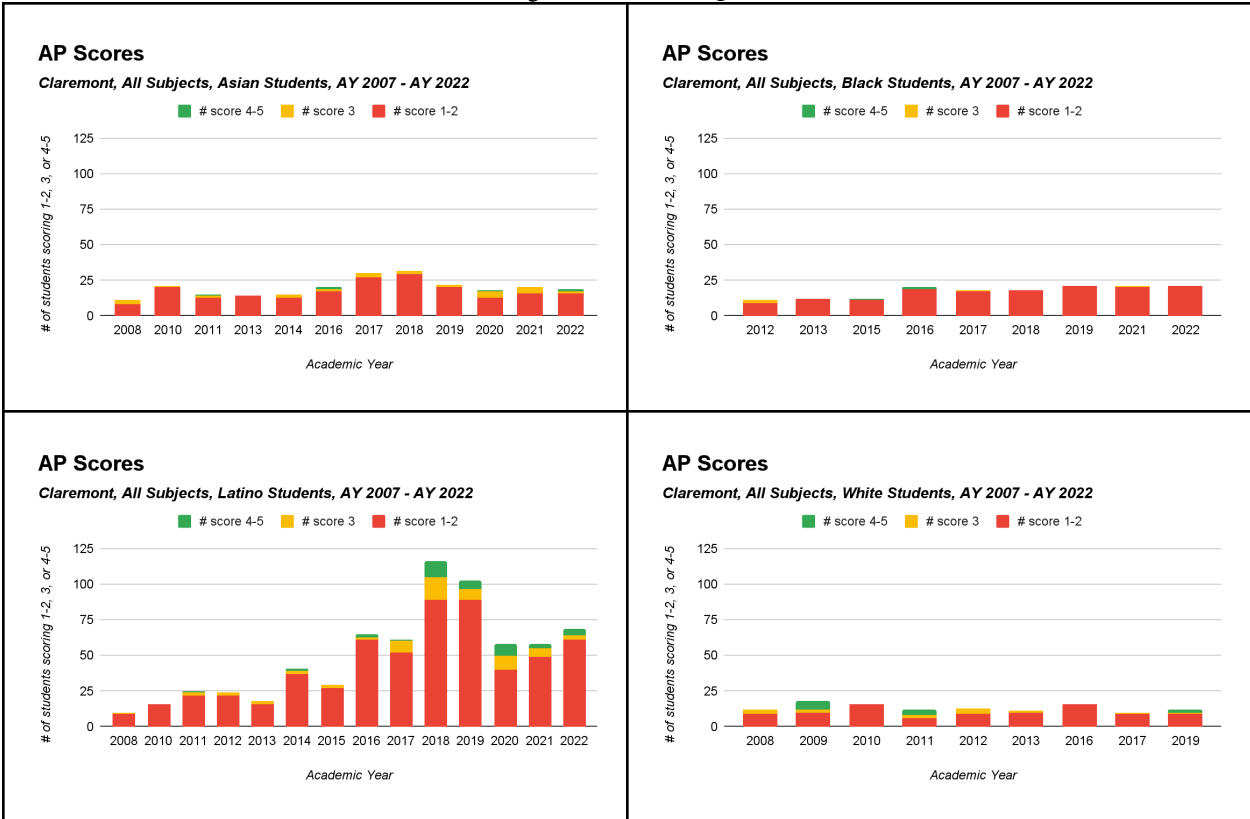
<sup>32</sup> In AY 2020, the failure rate was 68.4%. This was the lowest failure rate at Claremont in the last 16 years.

# Claremont Academy

## AP Performance by Subject Area

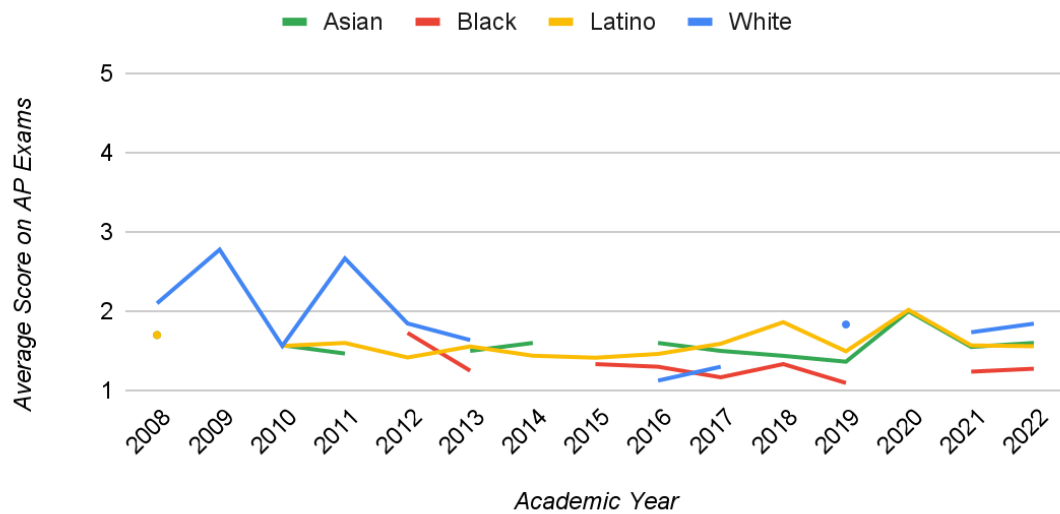


# Claremont Academy *AP Performance by Race*



## AP Test Score Averages by Race

Claremont, All Subjects, AY 2007 - AY 2022 (when data is reported)



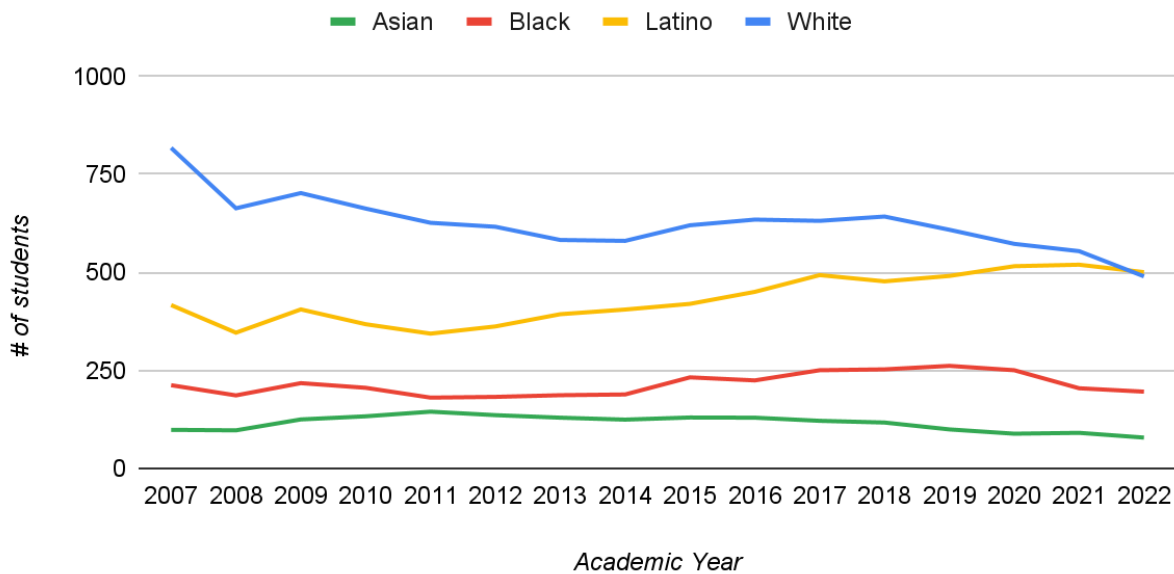
# Doherty Memorial High School

Doherty comes in second (behind South) in WPS AP participation since AY 2007. Over the last 16 years, 4,279 Doherty students have taken 7,076 AP exams. South leads in part due to the earlier expansion of its AP program. But by AY 2018, Doherty’s program surpassed South’s for primacy in both categories -- number of test-takers and number of tests taken -- and it retains both distinctions today. Combined, Doherty and South account for nearly half (48.6%) of all WPS test-takers and they have administered more than half (51.5%) of WPS’s AP exams since AY 2007.

The demographic changes that have characterized Worcester and its schools have come more slowly to Doherty. It was the second to last Worcester public high school to realize a White majority (AY 2009) and the last to see a Latino plurality emerge (AY 2022). Since AY 2007, the overall annual enrollment at Doherty declined by approximately 230 students while two important enrollment shifts were occurring internally: Latino enrollment increased and White enrollment declined. This transformed the school’s student population, recently leaving Doherty’s Latino students with a slightly larger population. Last year approximately 503 Latino students and 490 White students were enrolled at Doherty; in AY 2023, that difference has widened to approximately 504 Latino students and 481 White students. This all means that Doherty’s White student population sits at 35.8% today and its non-White population is 64.2%. But you would not guess that from its AP participation.

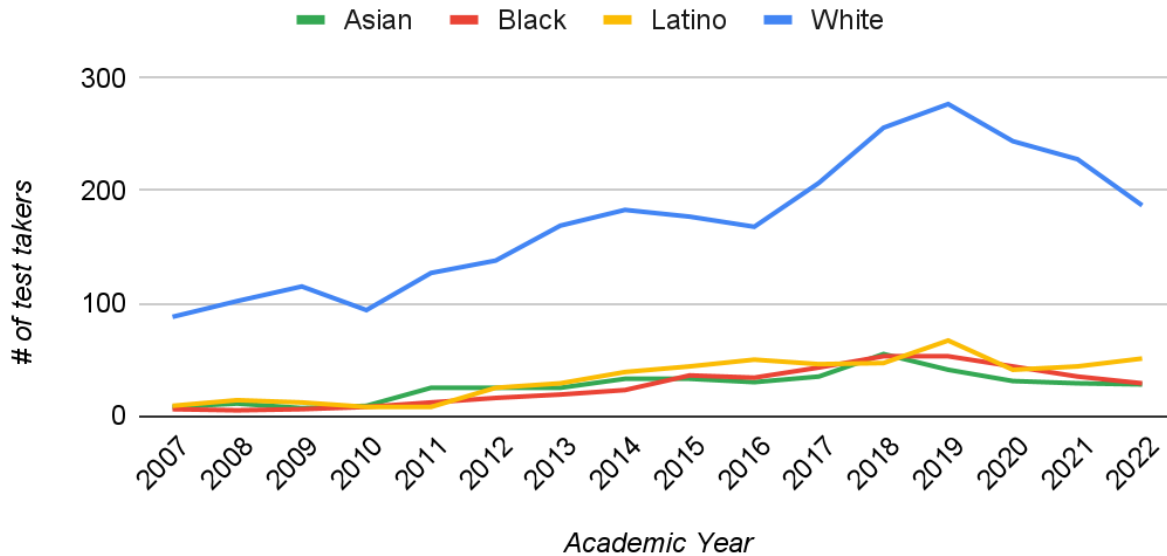
## Student Population by Race

**Doherty, AY 2007 - AY 2022**



# AP Test Takers by Race

*Doherty, All AP Exams, All Students, AY 2007 - AY 2022*



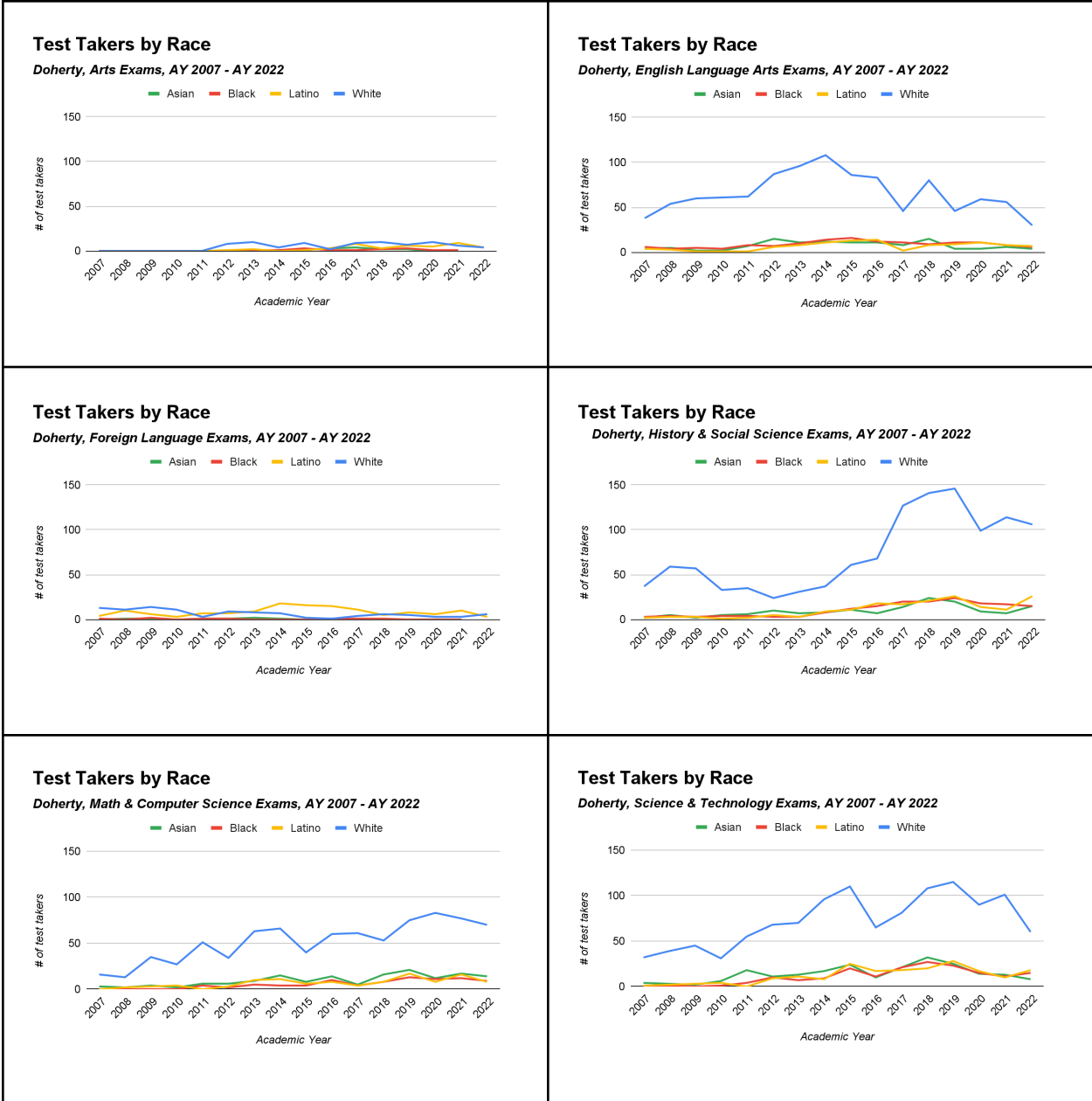
Indeed, viewing the AP participation levels against Doherty’s enrollment suggest serious equity and access issues swirl around the school’s AP program because the demographic shift underway at the school, district, and city is not at all reflected in the school’s AP test-taking. On the contrary, even as students of color have become the majority population, their AP participation has grown only slightly, while the shrinking number of White students take AP tests at much higher rates. As recently as AY 2022, when White students comprised 35.8% of the Doherty enrollment, 187 White students took 311 AP exams, which amounted to 60.5% of the test-takers sitting for 64.3% of the tests administered. Moreover, White students made up 73.5% of students taking 3 or more AP exams. Although there has been a slight uptick in AP test-taking among students of color, it does not reflect that non-White students have been the majority of Doherty's enrollment for a decade.

Doherty’s Test-Takers by Race and Subject Area charts show similar participation patterns, especially in English Language Arts, History & Social Science, Math & Computer Science, and Science & Technology exams. In each of these subject areas, the number of White test-takers far exceeds the number of test-takers from any other group. Even in Foreign Language exams, which are primarily Spanish Language tests, Doherty’s Latino students outnumbered White students by slight margins 9 of the last 16 years. Perhaps most curious is the fact that in many of the AP exams, the number of White AP test-takers actually rises over time, even as the school’s White enrollment is trending in the opposite direction.



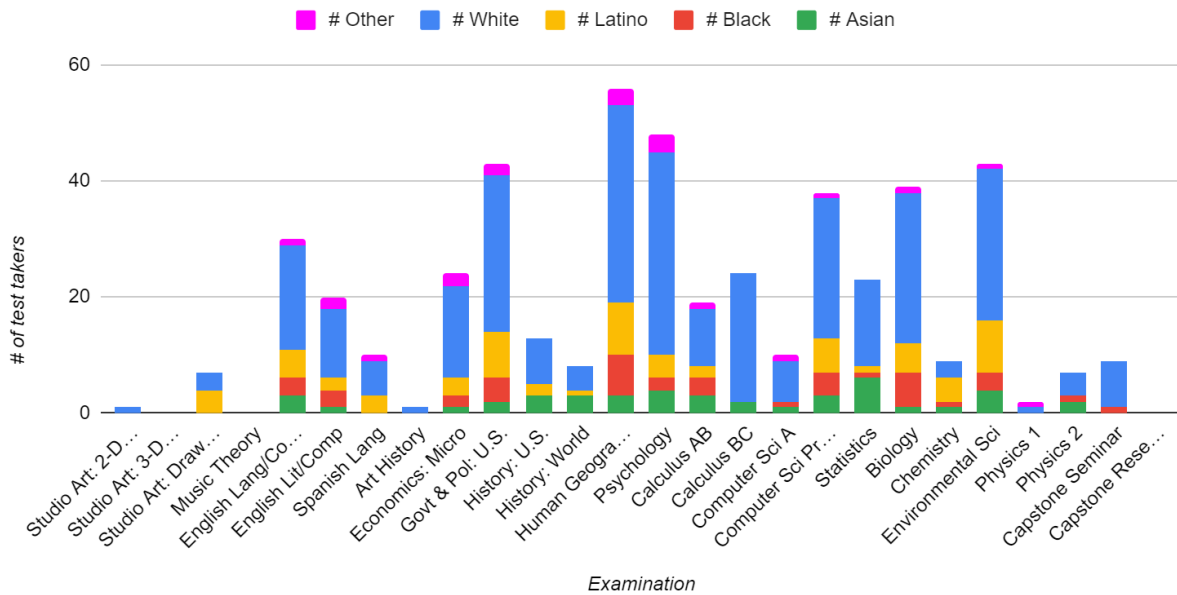
# Doherty Memorial High School

## AP Participation by Race and Subject Area



## # Test Takers by Race by Exam

Doherty, 2022, All Exams



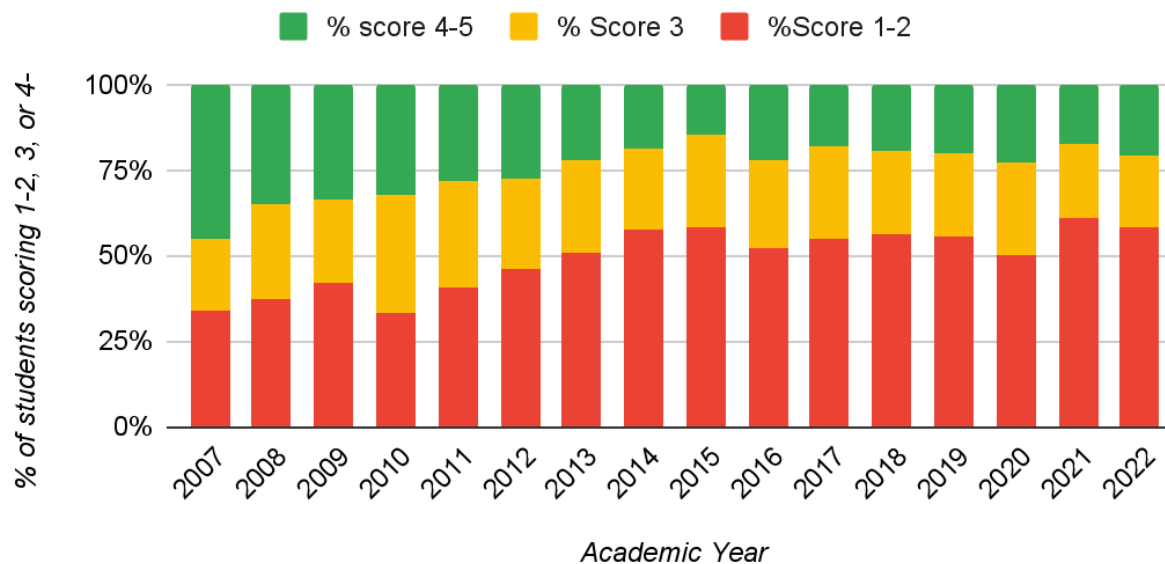
Doherty offers students a tremendous diversity of AP exams. However, as reflected in the above AY 2022 chart, even at the individual exam level White students participate much more despite the slightly larger Latino enrollment. In its most popular AP exams -- *AP Human Geography*, *AP Psychology*, *AP US Government and Politics*, and *AP Environmental Science* -- White students outnumbered Latino students 122 to 30.<sup>33</sup> The only two tests in which Latino test-takers outnumbered White test-takers were *AP Chemistry* and *AP Studio Art: Drawing*, but in each cohort there were 4 Latino and 3 White test-takers. In fact, even in the *AP Spanish Language & Culture* exam, a test for which other schools have heavy Latino participation, White test-takers outnumber Latino test-takers 6-to-3.



<sup>33</sup> In each of these AP exams, the White-to-Latino test-taker ratio was AP Human Geography (34:9), AP Psychology (35:4), ASP US Government and Politics (27:8), and AP Environmental Science (26:9).

## AP Scores

### Doherty, All Subjects, All Students, AY 2007 - AY 2022

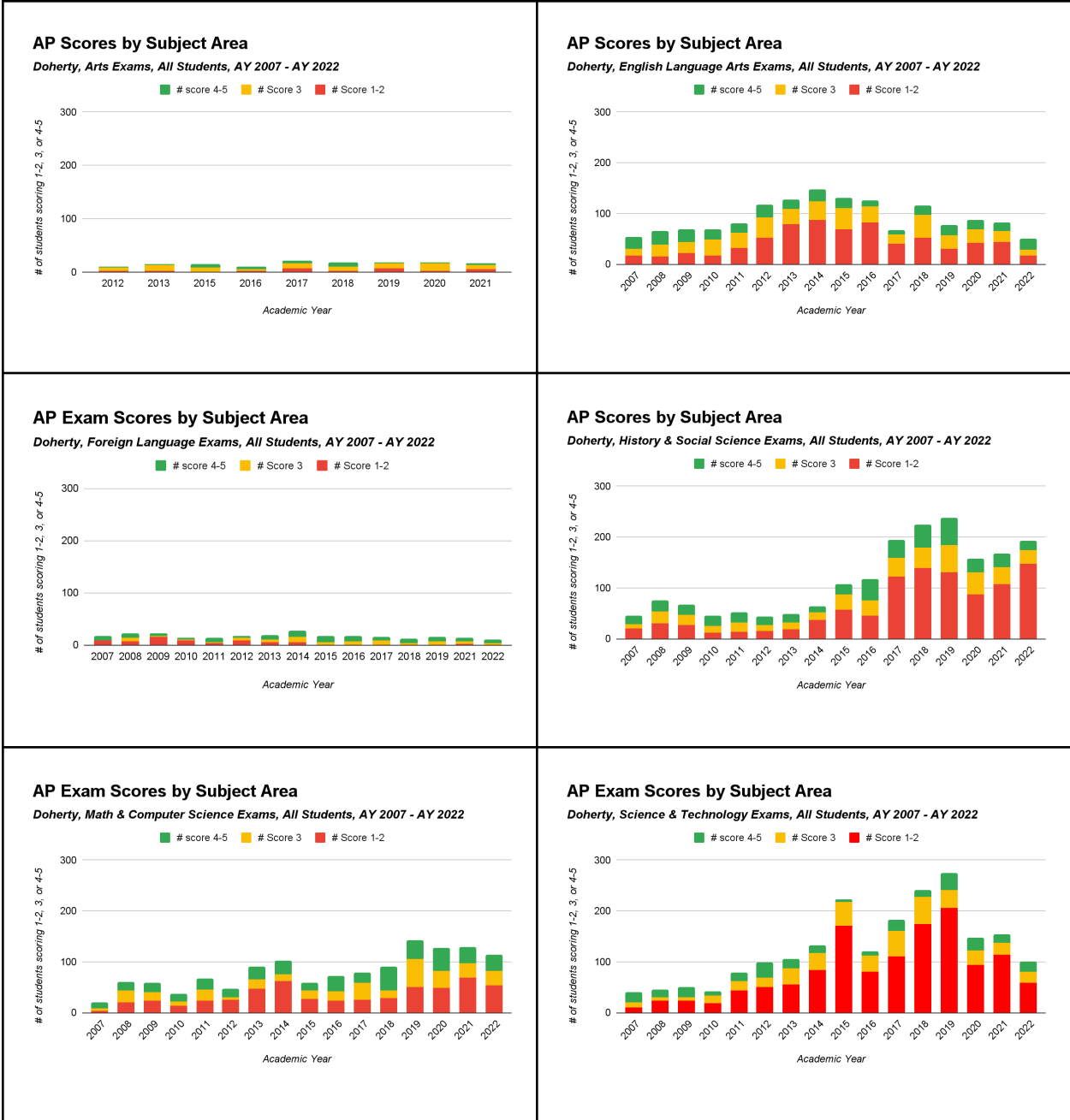


At the beginning of the study period the rates at which Doherty test-takers scored 1-2, 3, or 4-5 on their AP exams were relatively balanced. From AY 2007 to AY 2011, students who earned the lowest scores (1-2) comprised between 33.3% and 42.1% of test takers at the school while those with the highest scores (4-5) comprised between 28.3 and 45.5%; students who received scores of 3 made up between 20-34.3%. But in AY 2012, for the first time, Doherty test-takers as a whole began to fail AP exams more than pass them, and while the failure rate fluctuated, it never dipped below 50% again. In AY 2022, the portion of Doherty test-takers earning 1 or 2 was 58.3%; those test-takers earning 3 and those earning 4-5 were evenly split at just under 21% of the test-takers at each score category.

At the subject area level, the exams in Science & Technology have given Doherty AP students the most trouble with the smallest percentages of test-takers scoring 4 and 5. The average failure rate on these AP exams taken since AY 2007 is 58.5% while the average rate of Doherty test-takers earning 4 or 5 is 19.2%. History & Social Science exams are the second most common group of AP exams taken at Doherty since AY 2007, and in these, test-takers have done a little better: 48.6% have scored 1-2 while 26.6% have scored 4-5 on average.

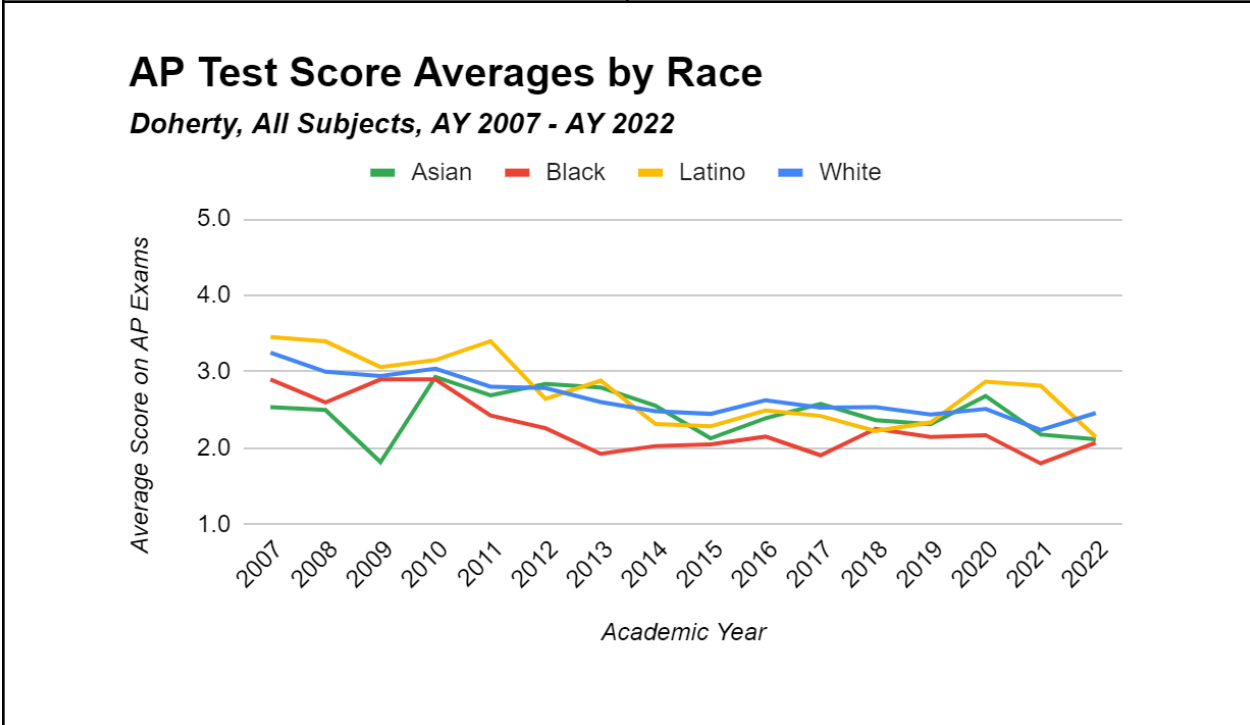
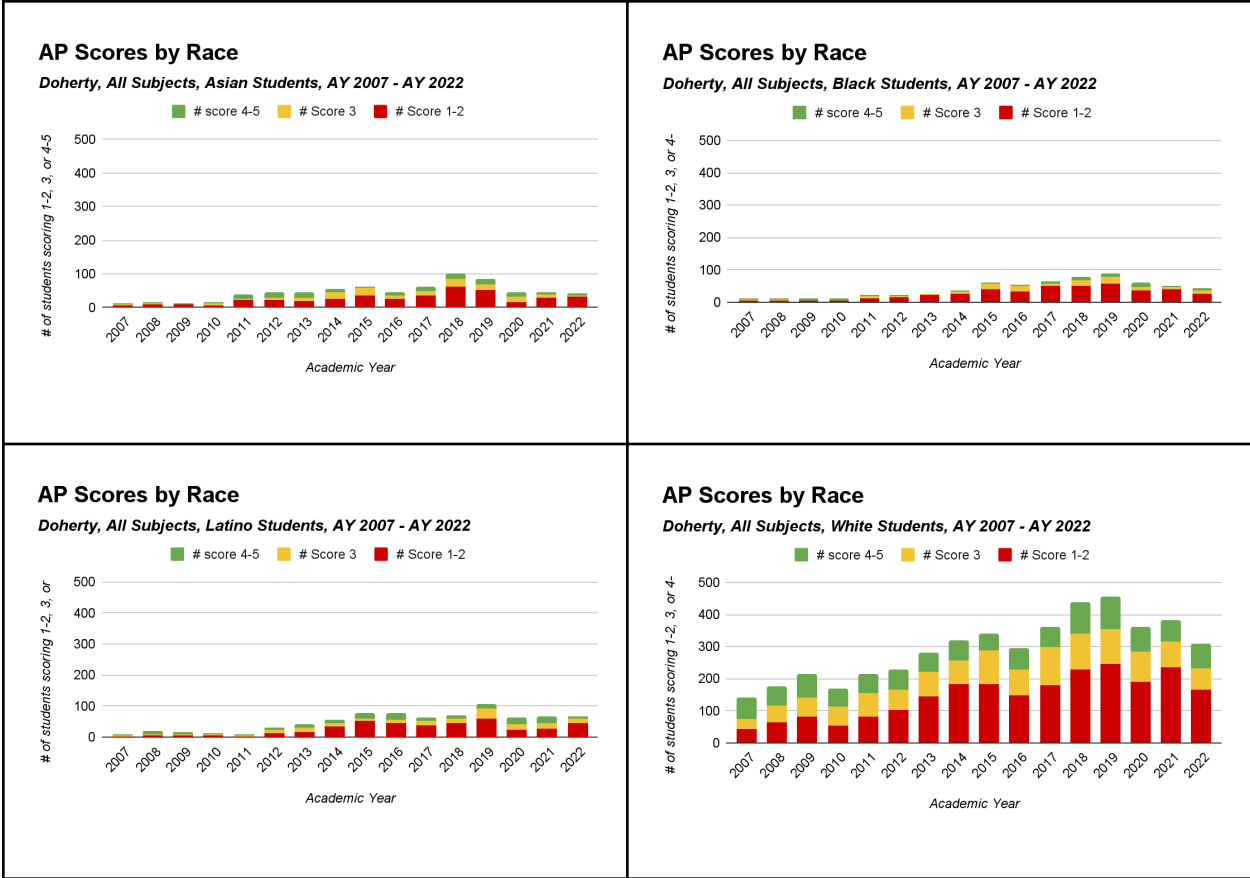
# Doherty Memorial High School

## *AP Performance by Subject Area*



# Doherty Memorial High School

## *AP Performance by Race*



Precise comparisons of scores using the above charts are difficult to ascertain owing to their lopsidedness. This unevenness reflects the test-taking numbers of each group at Doherty. But the chart at the right, which compares White and Latino test-taker scores on a percent basis, shows that Latino test-takers routinely outscore White test-takers at Doherty. In fact, the test score averages chart (above) also suggests as much, too.

Comparison of Overall AP Scores Doherty, All AP Exams		
	Latino % score 4-5	White % score 4-5
AY 2007	54.5%	47.9%
AY 2008	50.0%	33.7%
AY 2009	43.8%	34.6%
AY 2010	38.5%	32.5%
AY 2011	50.0%	27.9%
AY 2012	25.8%	28.3%
AY 2013	25.6%	20.9%
AY 2014	17.5%	19.9%
AY 2015	23.4%	15.8%
AY 2016	26.0%	23.0%
AY 2017	20.3%	17.9%
AY 2018	15.5%	22.3%
AY 2019	14.0%	22.3%
AY 2020	33.9%	21.1%
AY 2021	30.3%	17.2%
AY 2022	11.8%	25.4%

It can be concluded that while some Doherty subgroups and some individual students saw performance improvements over time, it is also true that far more students earned scores of 1-2 on AP tests which precluded them from realizing the most frequent promise of the AP process: collecting credits for college. Isolating two years from this period, one at the beginning of the study and one before the pandemic to avoid the implications it caused, makes this point especially clear:

	<i>%/# scores of 1-2</i>	<i>%/# scores of 3</i>	<i>%/# scores of 4-5</i>
AY 2007	34.1% (60)	20.5% (36)	45.5% (80)
AY 2019	55.3% (436)	24.6% (194)	20.1% (158)

From AY 2007 to AY 2019, the number of AP test-takers scoring a 4 or 5 nearly doubled and the number of test-takers scoring 3-5, to use the DESE and College Board groupings, tripled. However, the number of test-takers scoring 1-2 increased 7x over, more than 700%. In other words, expanding the AP program certainly increased the number of high scores at Doherty, but it is also true that the simultaneous expansion of the program exponentially increased failing scores, which is also true for the entire district.

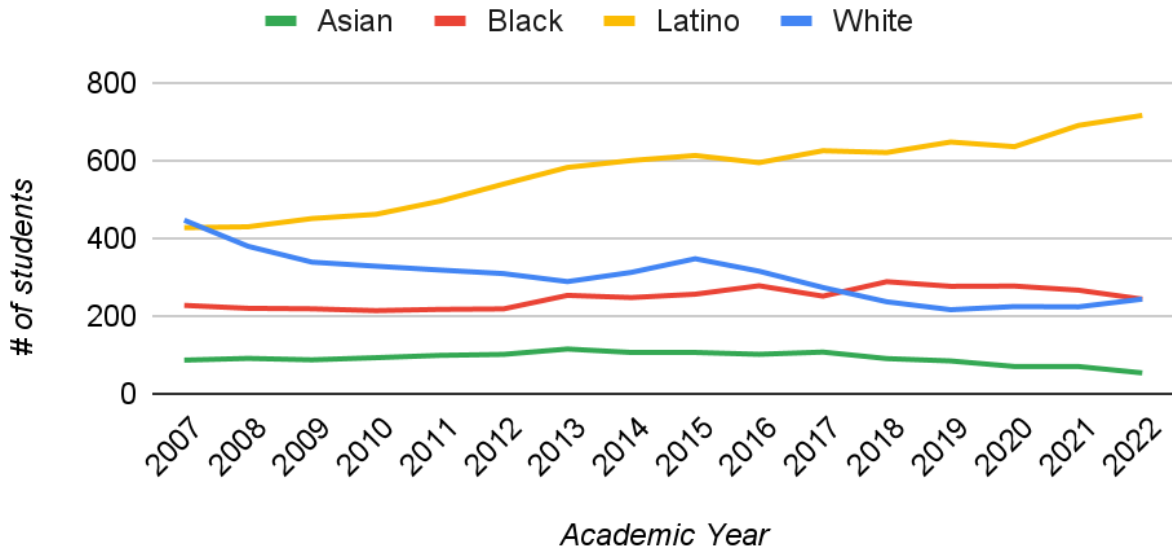
# North High School

With 1,308 students, North High School has the third largest student enrollment of Worcester’s comprehensive public high schools and was the district’s fourth largest Worcester public school by population in AY 2022. It became a Latino majority school in AY 2019 and remains the only one of the city’s large high schools with such a distinction. North’s Latino student enrollment surpassed its White student enrollment in AY 2008, and Black student enrollment did the same for the first time ten years later, in AY 2018.

In AY 2022, 54.8% of the student body was Latino, 18.7% was Black, 18.7% was White, and 4.2% was Asian. Although White and Black students counted for the same percentage in AY 2022, indications in AY 2023 are that the Black student population at North (19.4%) is currently larger than the White student population (17.9%). The Asian student population at North began the study period at 7.3% of the school enrollment, it grew to 9.2% by AY 2013 and dropped to 4.2% in AY 2022. Indications in AY 2023 are that this population has only slightly increased to 4.3%.

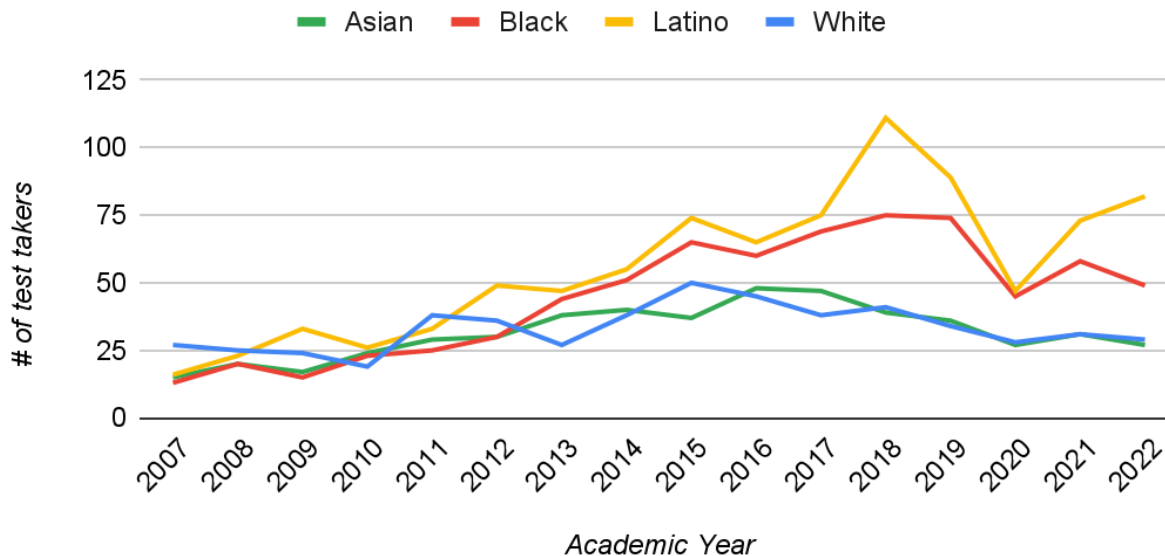
## Student Population by Race

*North, AY 2007 - AY 2022*



## Test Takers by Race

*North, All AP Exams, AY 2007 - AY 2022*



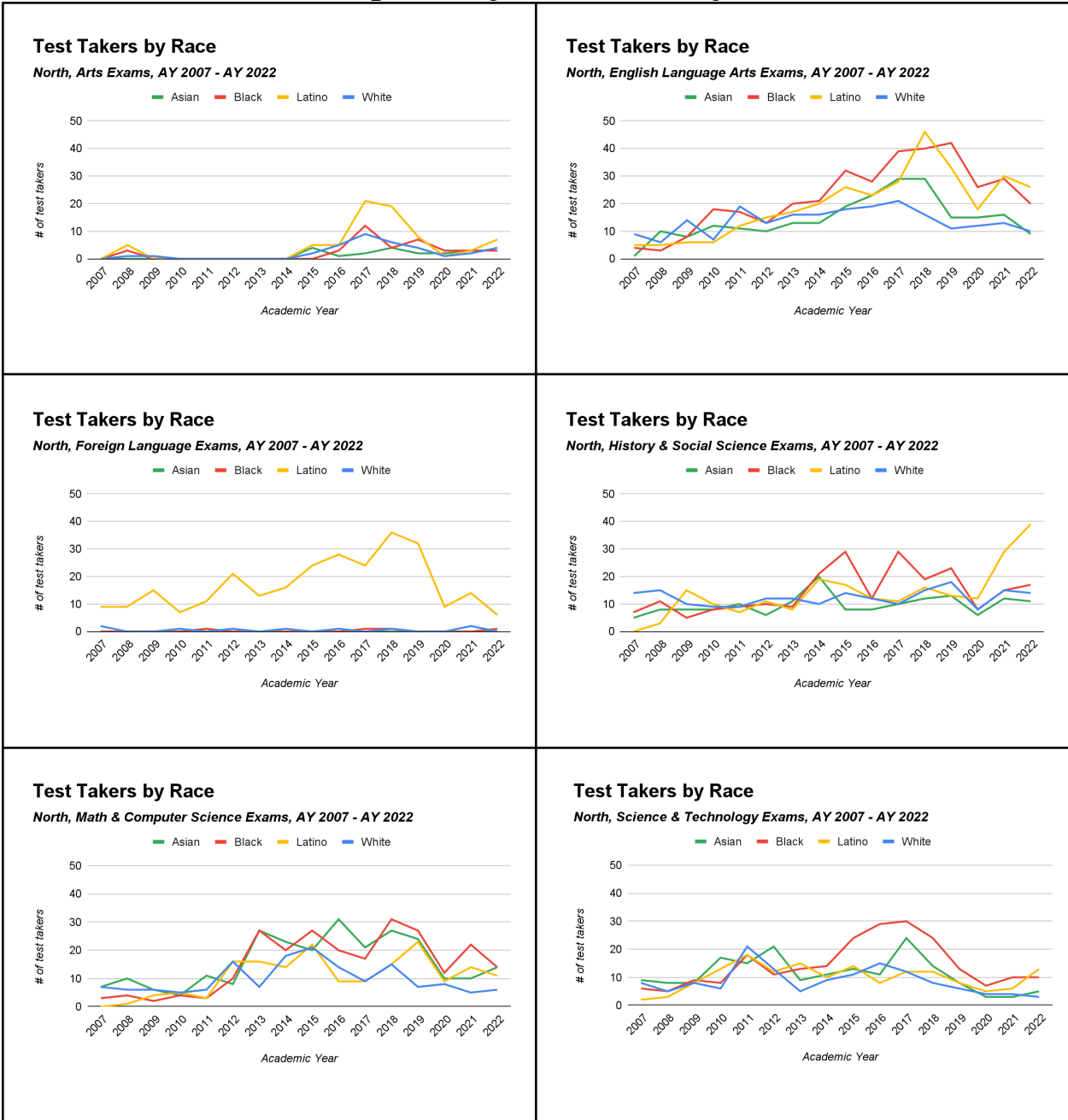
Unlike all other larger comprehensive high schools -- namely Burncoat, Doherty, and South -- North High's AP exam participation rates more accurately, though not perfectly, reflect the demographic profile of the school. Latino and Black students, the two largest groups enrolled at North, take AP exams more than White and Asian students at North High. In fact, about the time Latino enrollment surpassed White enrollment at North, AP exam-taking increased for both Latino and Black students, and within 3 years surpassed that of their White counterparts. This is in sharp contrast to Doherty, for example, where White test-taking paradoxically increased as that group's enrollment decreased. It should also be emphasized that the pandemic affected Latino and Black student test-taking more harshly than it affected other groups at North. But both seem to be rebounding quickly.

Looking at North's AP participation by subject tests, it is clear that North students take AP Art tests more than any other school, and that Latino students are particularly well represented in these tests. Like most other schools, Latino students dominate in the Foreign Language Arts tests and, in recent years, the History & Social Science exams. Perhaps the most significant difference from other schools is the fact that Black students take AP tests at North at unprecedented levels for the district as a whole. Indeed, on the Science & Technology exams, Black test-takers outnumbered all others and they have from AY 2014 to AY 2021.



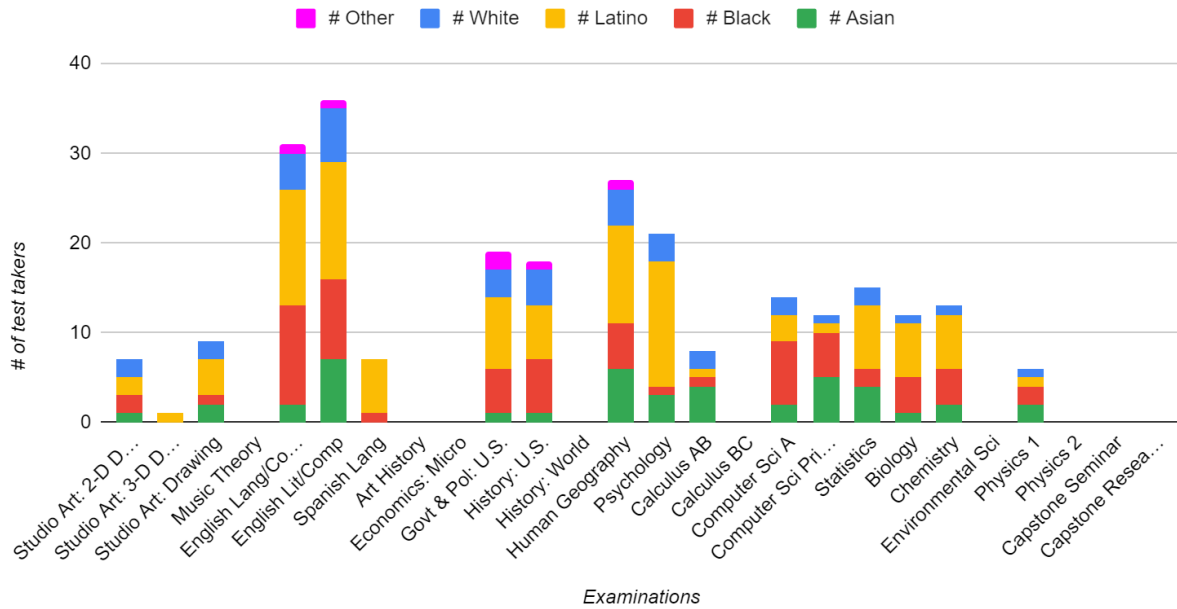
# North High School

## AP Participation by Race and Subject Area



## # Test Takers by Race by Exam

North, 2022, All Exams

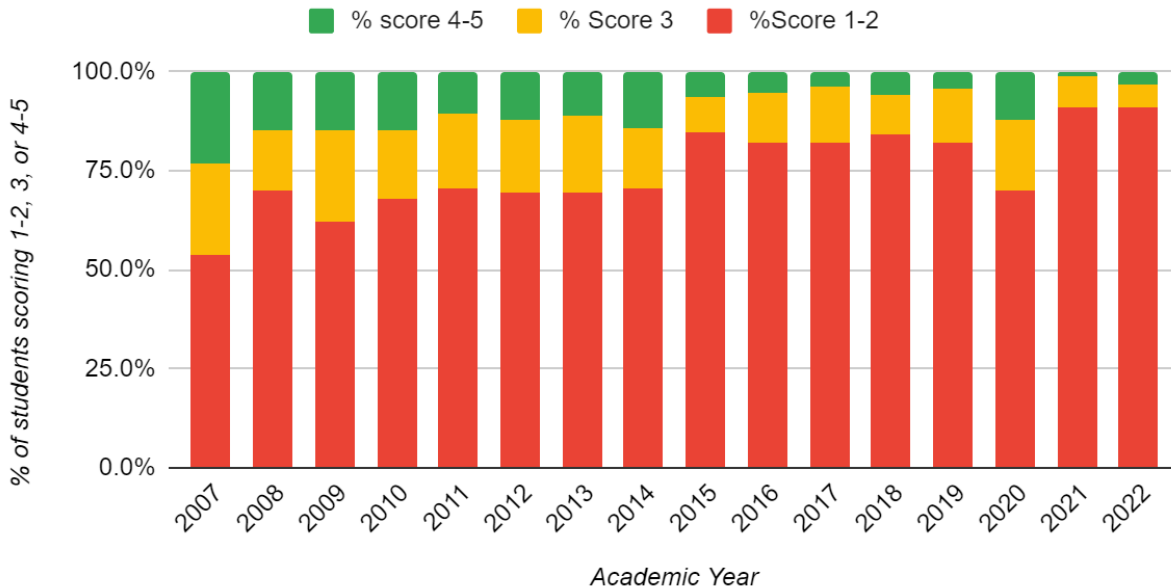


In AY 2022, North offered students 17 different AP exams. The most popular tests taken last year were: *AP English Literature & Composition*, *AP English Language and Composition*, and *AP Human Geography*. Foreign Language exams that year consisted of the Spanish-based tests taken by 6 Latino students and one Black student. In fact, all but 1 of the 289 AP Foreign Language exam students at North since AY 2007 were Spanish-based exams and Latino students took 95.2% of them. The sole exception was an *AP German Language* exam taken by a Black student (AY 2018).



# AP Scores

North, All Subjects, All Students, AY 2007 - AY 2022



The AP Scores from North High are disappointing -- worse, in fact, than any of the other comprehensive schools. And they have been declining over time. The table on the right uses three years to more closely examine the scores. The first year is the earliest year of this study period. The second, AY 2018, is the year WPS administered the greatest number of AP exams. The third is the most recent year of the exams, which also happens to be the year of the highest failure rate. The chart shows a glimpse of the larger dynamic, which is that the percentage of test-takers scoring a 1-2 has been steadily increasing with the only major dip occurring the year of the pandemic.

Comparison of AP Scores North, All Exams			
	% scoring 1-2	% scoring 3	% scoring 4-5
AY 2007	53.6%	23.2%	23.2%
AY 2018	84.0%	10.1%	5.9%
AY 2022	91.0%	5.9%	3.1%

At the subject category level, North High test-takers did the best on Foreign Language exams. However, they did poorly in all other areas. Often there were years with very few 4-5 scores; some years there were none on individual exams. This is especially so in the English Language Arts and Science & Technology areas where the average percentage of test-takers scoring 4 or 5 has been 3.3% and 7.5%, respectively.

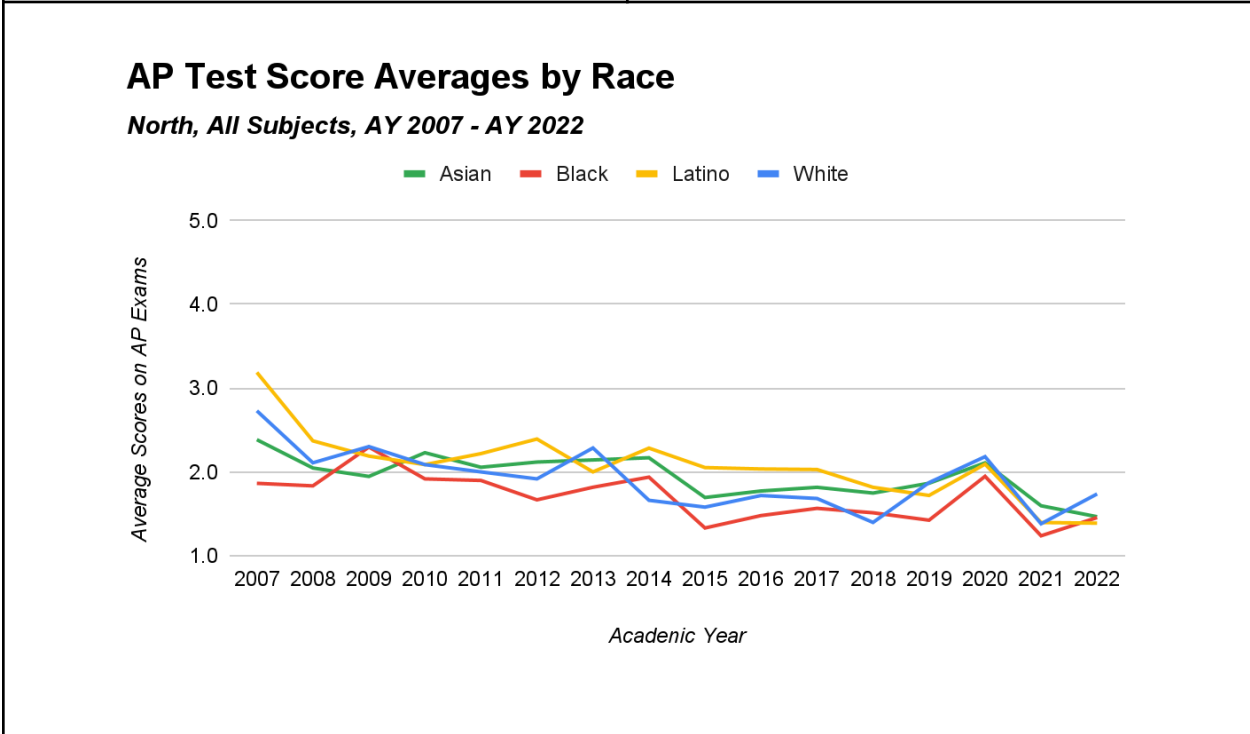
# North High School

## AP Performance by Subject Area



One compelling aspect of the North High AP exam results, however, is that Latino test-takers have the lowest average percentage of failing scores (69.5%) and the highest average percentage of 4-5 scores (15.8%) among all test-takers. The average 1-2/3/4-5 percentages for other groups are: Asian 73.2%/17.4%/9.2%, Black 82.5%/12.5%/4.9%, and White 75%/15.3%/9.6%.

# North High School *AP Performance by Race*

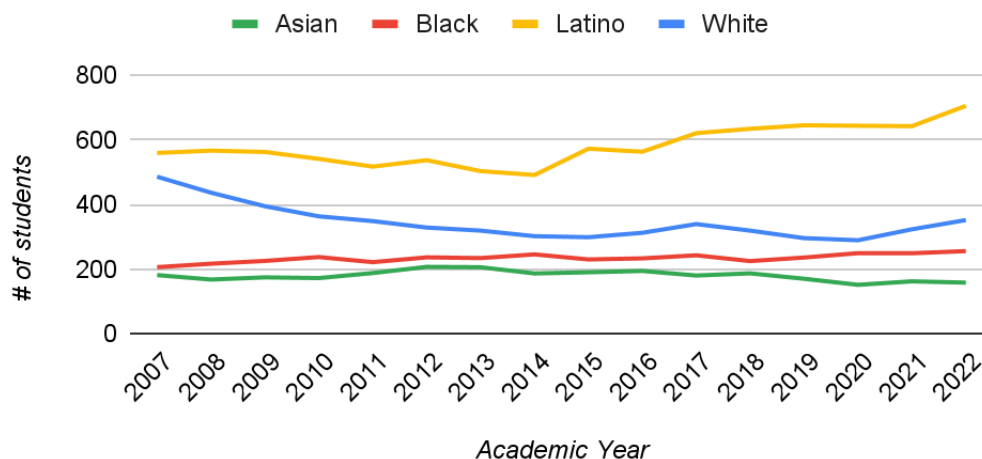


# South High Community School

With 1,524 students in AY 2022, South High Community School is the largest public school in Worcester. Perhaps unsurprisingly, South has also had both the greatest number of AP test-takers and the greatest number of AP tests taken since AY 2007. In fact, the idea to augment the WPS AP program actually originated at South in AY 2008 when then-principal Maureen Binienda “made AP a cornerstone of the educational philosophy at South High” and “nearly doubled” its rate of testing.<sup>34</sup> In 2016, as superintendent of schools, Binienda expanded the program to the entire district in what a reporter called a “major push... to get more students to enroll in AP classes and take AP tests.”<sup>35</sup> As a result, more than a quarter of the WPS AP test-takers since AY 2007 have come from South and even more of the district’s tests have been taken there. To put South’s AP program into perspective, there have been more exams administered at South since AY 2007 than at University Park, Claremont Academy, Worcester Tech, and Burncoat combined.

## Student Population by Race

South, AY 2007 - AY 2022



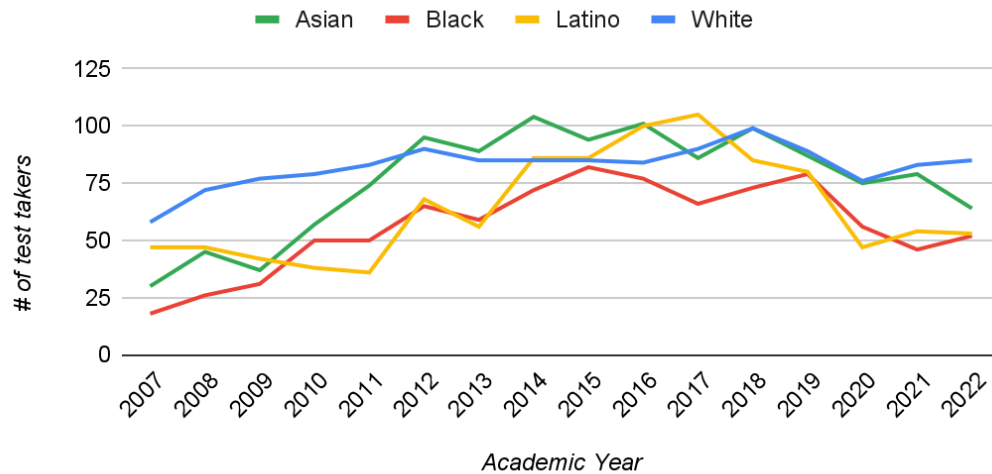
Like North High, South High Community School has had an especially large Latino enrollment for decades. It reached a Latino plurality in AY 2006, and it is likely to realize a Latino majority soon. Yet, unlike North, Latino students are not the largest group of test-takers at South -- White students are and they are followed (sometimes surpassed) by Asian students, who have the smallest enrollment. Indeed, Latino and Black students participate in AP testing the least at South. So, once again, the demography of AP test-takers does not reflect the school’s ethno-racial composition.

<sup>34</sup> Scott O’Connell, “AP A+ with students” *Worcester Telegram*, April 2, 2016.

<sup>35</sup> See O’Connell, “More Worcester students take Advanced Placement exams” *Worcester Telegram*, November 12, 2017; O’Connell, “Higher percentage of city students complete advanced courses” *Worcester Telegram*, December 31, 2018; and O’Connell, “AP test scores rise in Worcester,” *Worcester Telegram*, October 16, 2019.

## AP Test Takers by Race

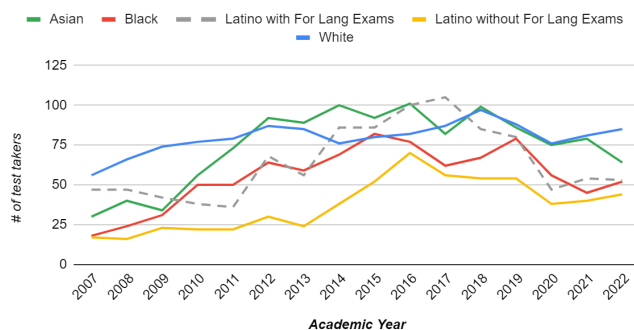
South, All AP Exams, AY 2007 - AY 2022



The Subject Area exam results show the imbalance more obviously. Again and again, Latino students participate the least in AP test-taking, sometimes alternating with Black test-takers for the lowest position. The sole exception is in Foreign Language exams. Since AY 2007, 520 Foreign Language exams have been administered at South and 94% of them were the Spanish-based *AP Spanish Language* (82%) or *AP Spanish Literature* (13%) exams. Importantly, the group that takes AP exams the least overall (Latino test-takers) accounts for 84% of these particular AP exams. In fact, redrawing the participation chart on this page to exclude the Foreign Language exams shows that Latino students are easily the lowest participants at South despite their being the largest single group. Yet, in terms of results, the AP Foreign Language area is among the most successful group of tests when it comes to producing scores of 4-5 at South High.

### Test Takers by Race -- Redrawn

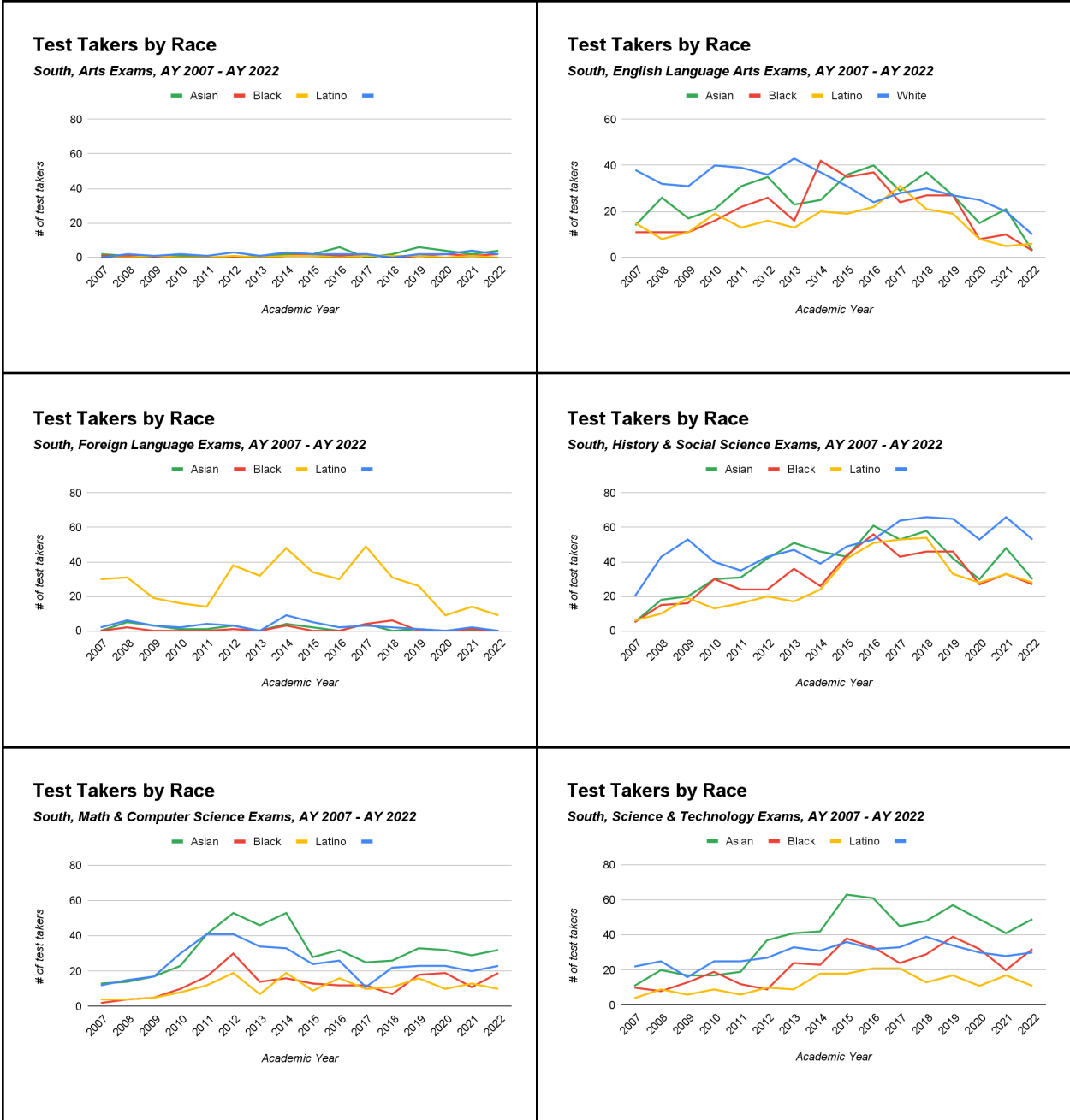
South, All AP Exams Highlighting Foreign Language Impact, AY 2007 - AY 2022



Another finding that differentiates the South High AP participation from that of other schools is the large number of Asian test-takers given that group's relatively small share of the school's enrollment. Since AY 2007, White students have taken 29.8% of the AP exams offered at South and Asian students have taken 29.4% of them. Asian student participation has been especially high in the Math & Computer Science and Science & Technology exams, in which they participate more than any other group in most years, but Asian students also have high participation levels in humanities-based tests as well.

# South High Community School

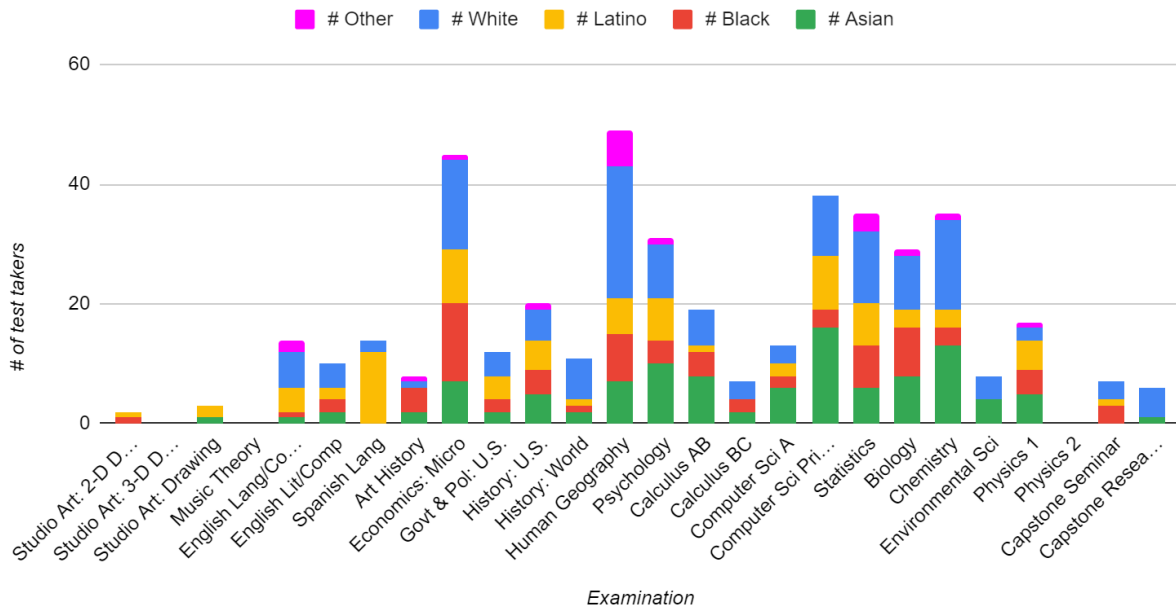
## AP Participation by Race and Subject Area





## # Test Takers by Race by Exam

South, 2022, All Exams

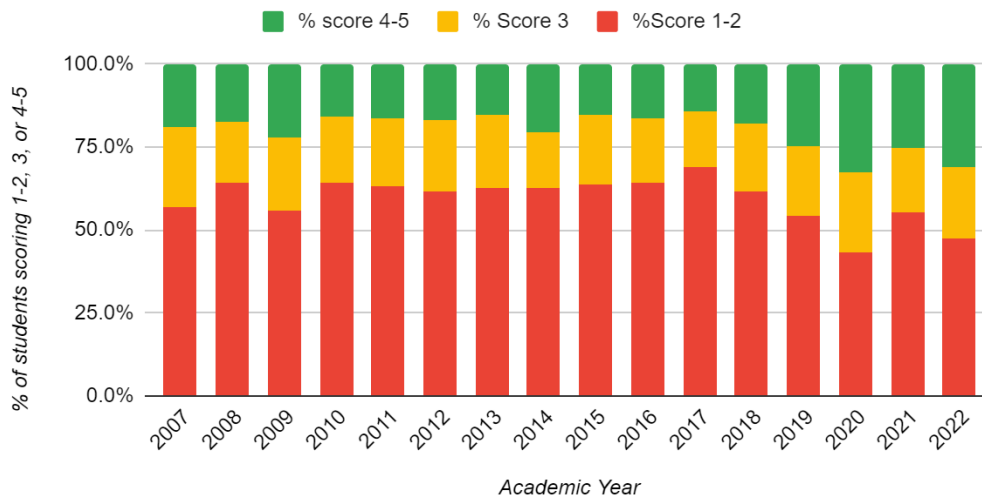


Like Doherty, South High offers a wide variety of AP exam experiences to its students, as shown by the above chart. But the chart also underscores the disparities that remain in the AP program even after decades of Latino students heading the school's enrollment. Indeed, while Latinos comprised 45.4% of the enrollment in AY 2022, they only accounted for 19.8% of the AP exam test-takers and 19.4% of the tests taken. Meanwhile, Asian students and White students, who comprise 10.1% and 23.3% of the student body, constituted 23.9% and 31.7% of test-takers and 24.9% and 33.9% of tests taken, respectively. Black students make up 17.1% of the enrollment and account for 29.4% of the test-takers and 17.6% of the tests taken.

% AP Participation and Enrollment by Race South, AY 2022			
	Test-Takers	Tests Taken	Enrollment
Asian	23.9%	24.9%	10.1%
Black	19.4%	17.6%	17.1%
Latino	19.8%	19.4%	45.4%
White	31.7%	33.9%	23.3%
Other	5.2%	4.2%	4.1%

## AP Scores

South, All Subjects, All Students, AY 2007 - AY 2022



The South High AP scores have been largely consistent with district-wide scores, which makes sense given that South (with Doherty) comprises such a large share of the overall district AP Program. But it should be emphasized that where it diverges from district-wide scores is that recently South has had two years in which more students have passed their AP exams than failed them. That is, more test-takers scored “qualifying” scores of 3-5 than they earned scores of 1-2. One year was AY 2020, the pandemic year, which saw a marked decrease in test-takers



district-wide. National research on the relationship between test-taking and scores suggests that as the College Board and school systems have raised AP participation levels, there has been a downward trend on scoring. In fact, the other year South had more students passing than failing was AY 2022, and participation numbers were still lower than they had been in AY 2018 and AY 2019.

This unintended development, an impact of the pandemic, suggests that national debates about the expansion of AP programs without adequate pedagogical and curricular change negatively impacts AP performance may be an effective way to understand the overall decline of scores nationally and at WPS.

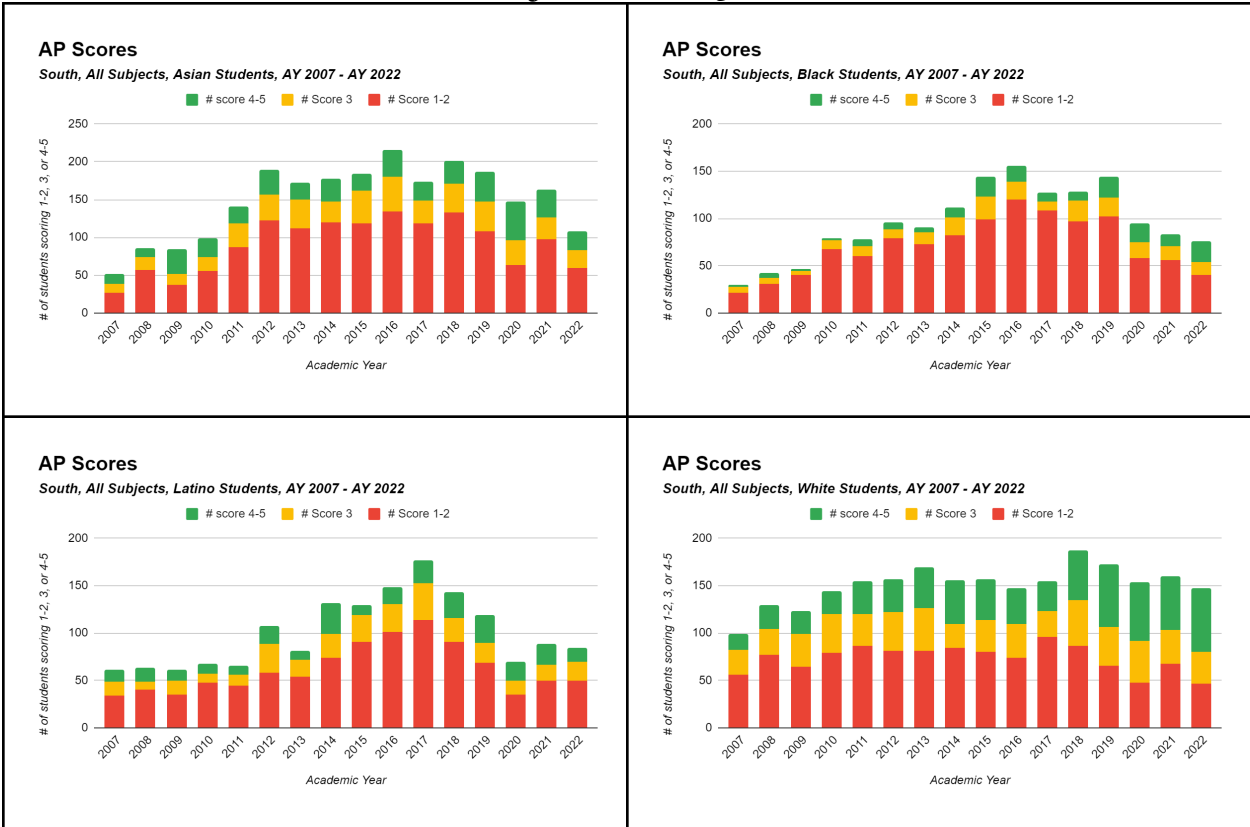
# South High Community School

## *AP Performance by Subject Area*



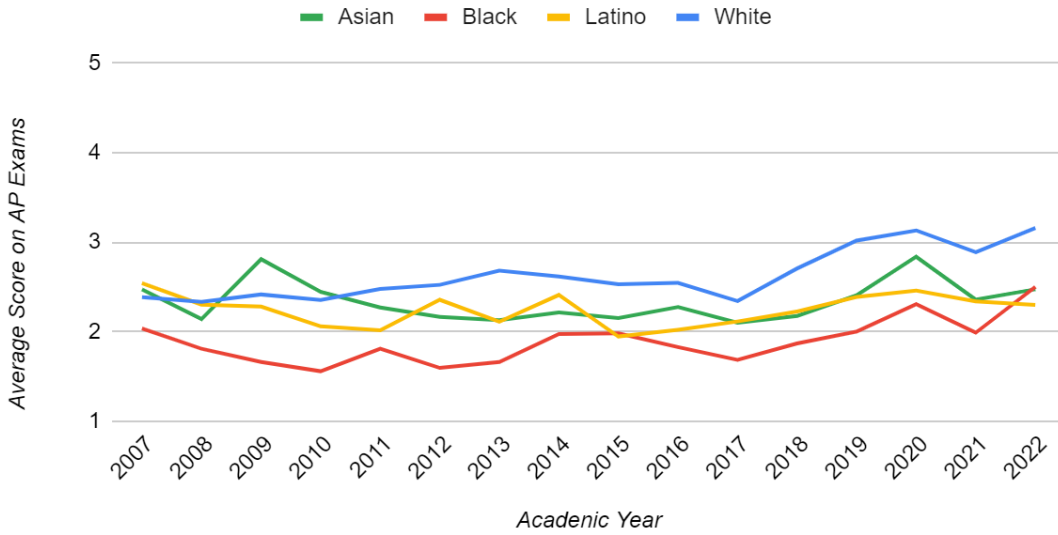
# South High Community School

## AP Performance by Race



### AP Test Score Averages by Race

South, All Subjects, AY 2007 - AY 2022

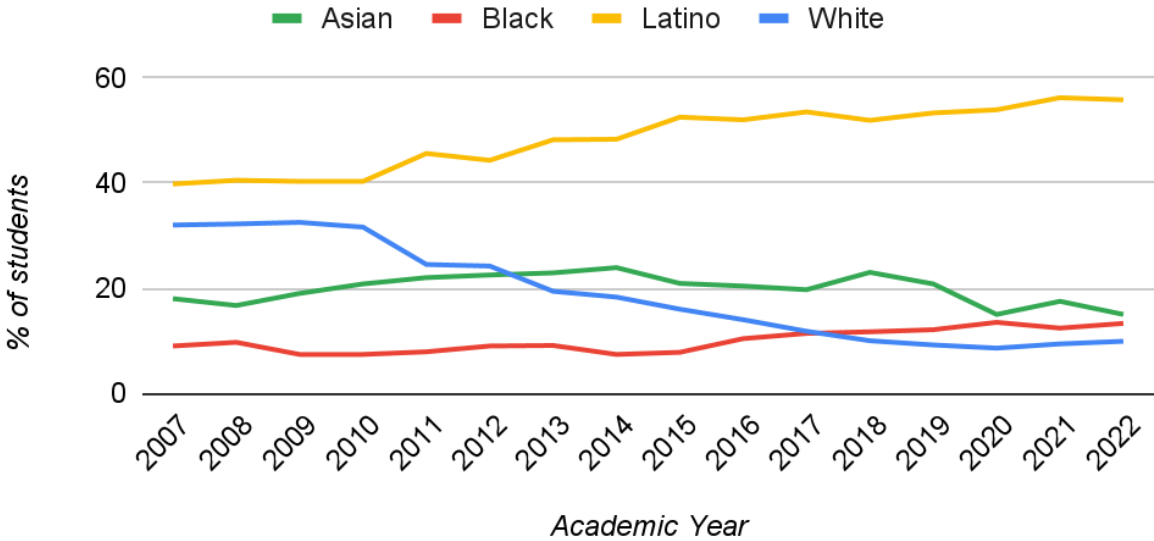


# University Park Campus School

In AY 2022, with 233 students in grades 7-12, University Park Campus School is the smallest Worcester public school serving high school students, and the sixth smallest school in the district overall. A neighborhood school that pulls its students from its immediate area in Main South, the school is located in an 1885 building that once was the Freeland Street School. According to its own mission, the school exists to provide a first-class education to a traditionally disadvantaged population,” for “neighborhood students of all abilities and prepares them for success in college.”

## Student Population by Race

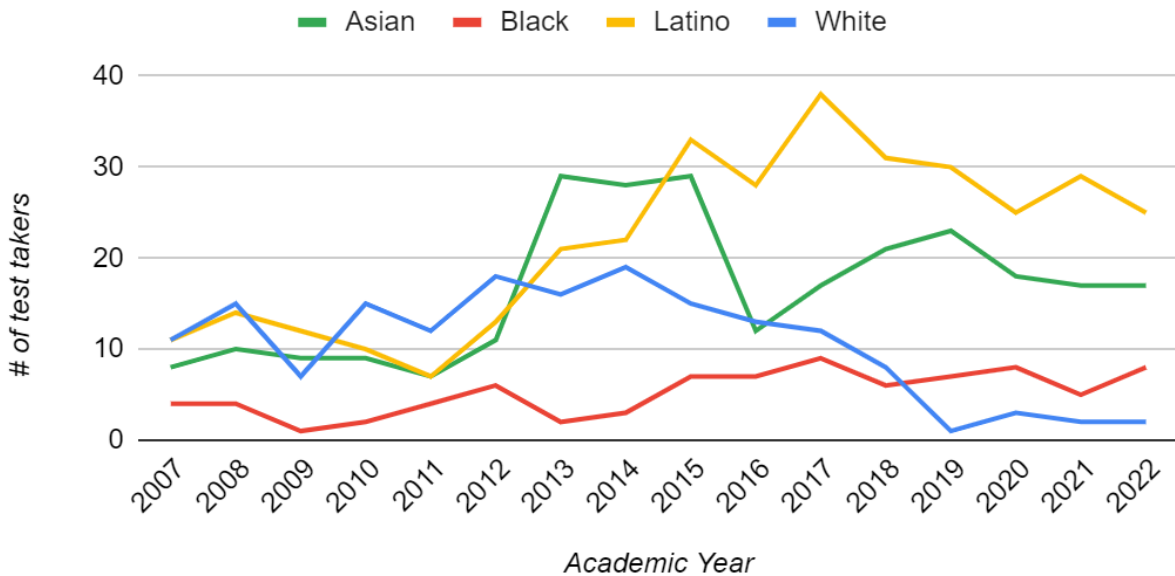
*University Park, AY 2007 - AY 2022*



University Park has had a large and growing Latino population for many years. There has been a Latino plurality since before the period of this study and it became a majority Latino school in AY 2015. By AY 2022, Latino students accounted for 55.8% of the school enrollment with the other main ethno-racial groups making up between just under 10% to 15% each. While the Latino population has grown substantially, the Black population has also grown slightly over time, from 9% in AY 2007 to 13.3% in AY 2022. There have been fluctuations in the Asian population, too, beginning the study period at 18% and ending it at 15%. But the big realignment down occurred in White enrollment, from 32% to 9.9%.

# Test Takers by Race

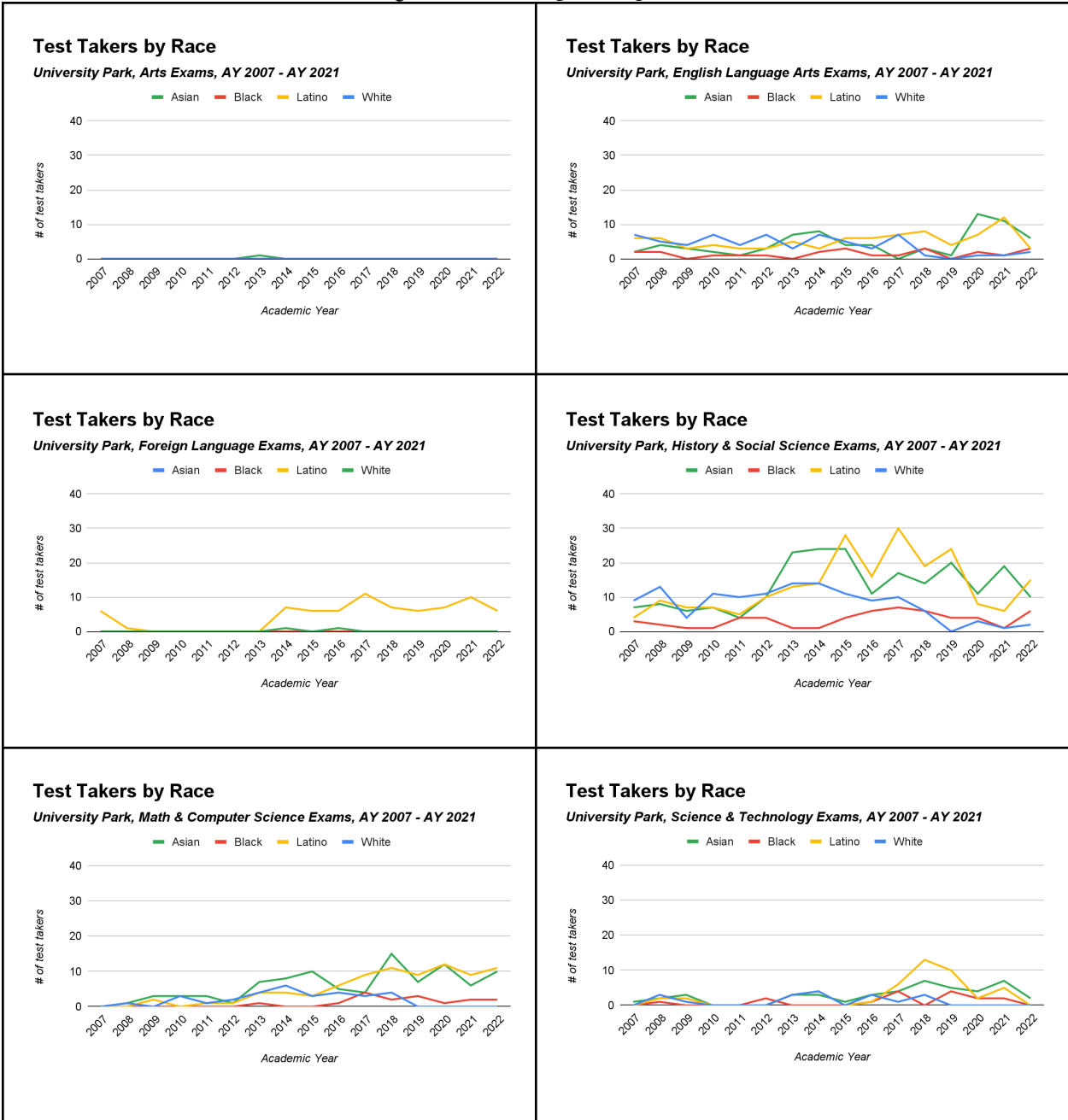
University Park, All AP Exams, AY 2007 - AY 2021



Since AY 2007, students from University Park have taken only 4.6% of the AP exams in WPS. The school’s AP participation reflects the school’s demographic character, particularly since AY 2015. In that year, for example, the Latino enrollment (52.5%) was the largest with Asian enrollment (20.9%) Behind it. Accordingly, these groups were the two highest test-takers. But as Asian enrollment declined, so, too, did their participation levels in AP exams. Similarly, as the White student enrollment declined, its AP participation followed suit going from 32.4% in AY 2007 to 3.7%, which is actually below their enrollment percentage that year (9.4%). And, over time, test-taking among Black students increased slightly in number of tests but declined slightly by percentage (9.3%) as its enrollment rose to 13.3% in AY 2022. This pattern, while once again not a perfect representation of school enrollment, is nevertheless closer to a true representation of enrollment when patterns in other many schools, especially Doherty and South, where the AP test-taking is not at all representative of the school demography.

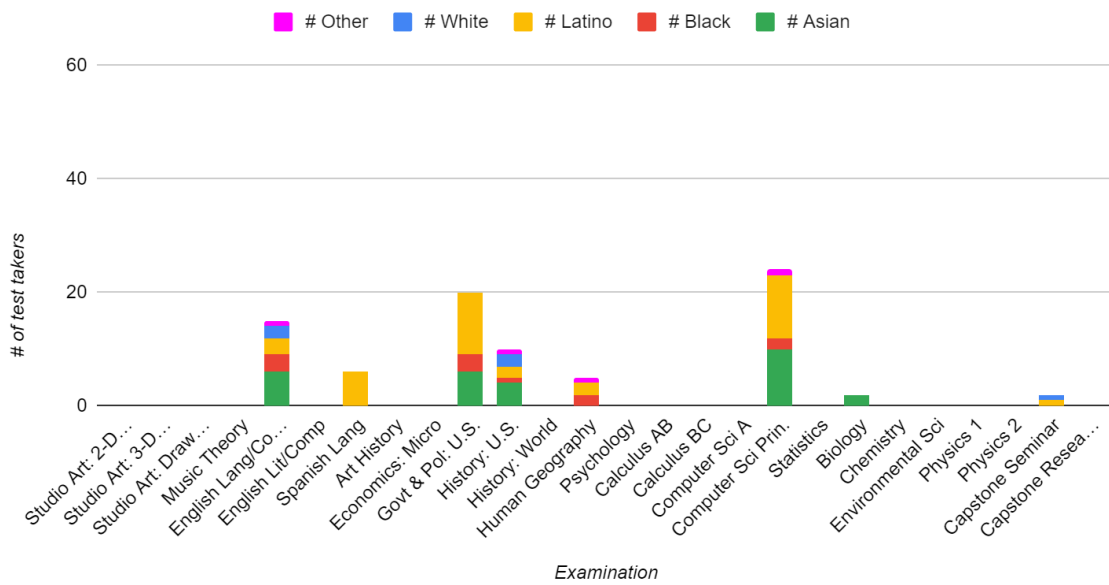
# University Park Campus School

## *AP Performance by Subject Area*



## Test Takers by Race by Exam

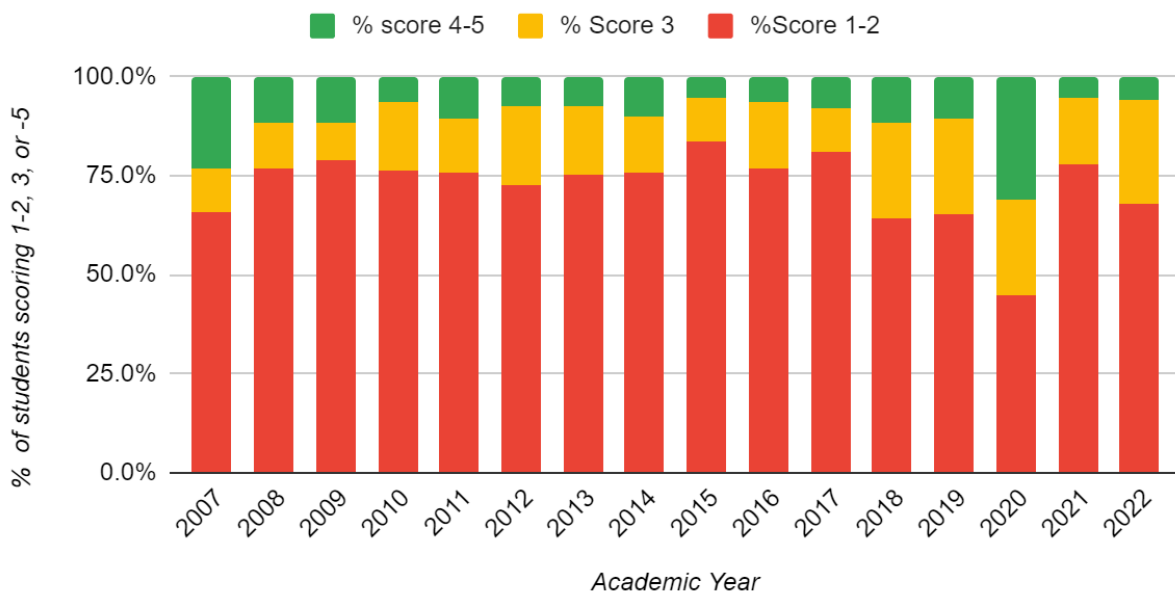
University Park, AY 2022, All Exams



Overall, there were far fewer AP exams taken at UPCS than at other schools. Last year, students took 8 AP exams. The most popular AP exams taken at University Park Campus School in AY 2022 were *AP Computer Science*, *AP US Government & Politics*, and *AP English Language & Composition*.

## AP Scores

University Park, All Students, All Subjects, AY 2007 - AY 2022





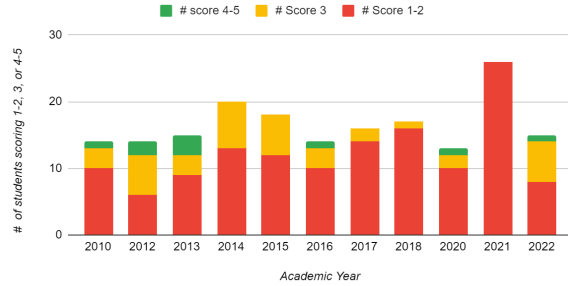
# University Park Campus School

## *AP Performance by Race*

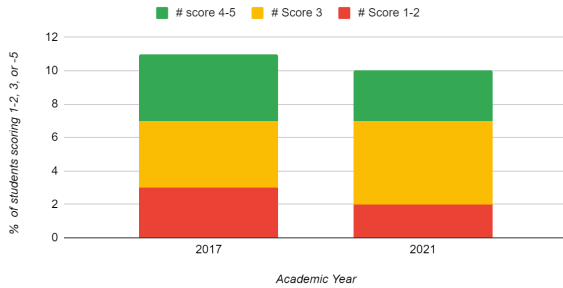
**AP Scores**  
University Park, Arts Exams, AY 2007 - AY 2022

No Data Available

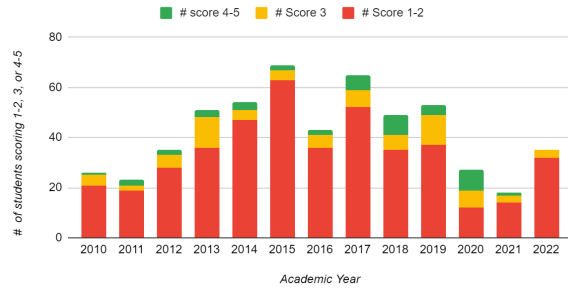
**AP Scores**  
University Park, English Language Arts Exams, AY 2007 - AY 2022



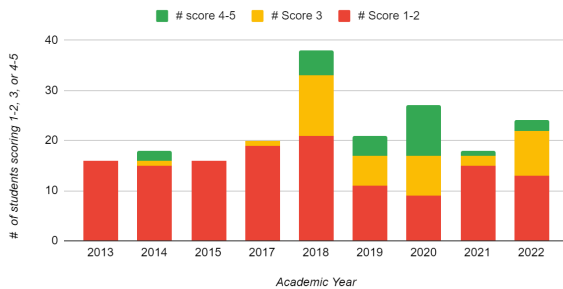
**AP Scores**  
University Park, Foreign Language Exams, AY 2007 - AY 2022



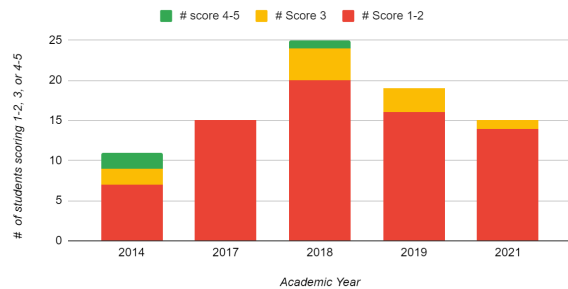
**AP Scores**  
University Park, History & Social Sciences Exams, AY 2007 - AY 2022



**# Score 1-2, # Score 3 and # score 4-5**  
University Park, Math & Computer Science Exams, AY 2007 - AY 2022

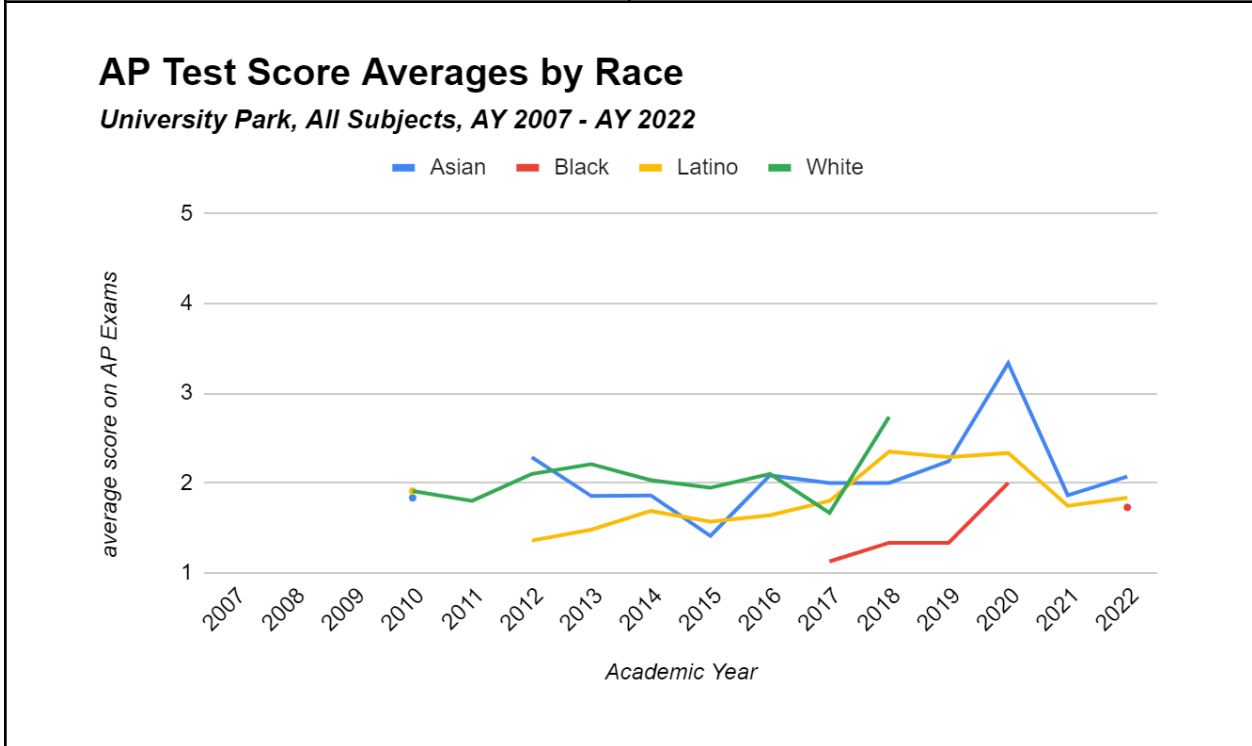


**AP Scores**  
University Park, Science & Technology Exams, AY 2007 - AY 2022



# University Park Campus School

## *AP Performance by Race*



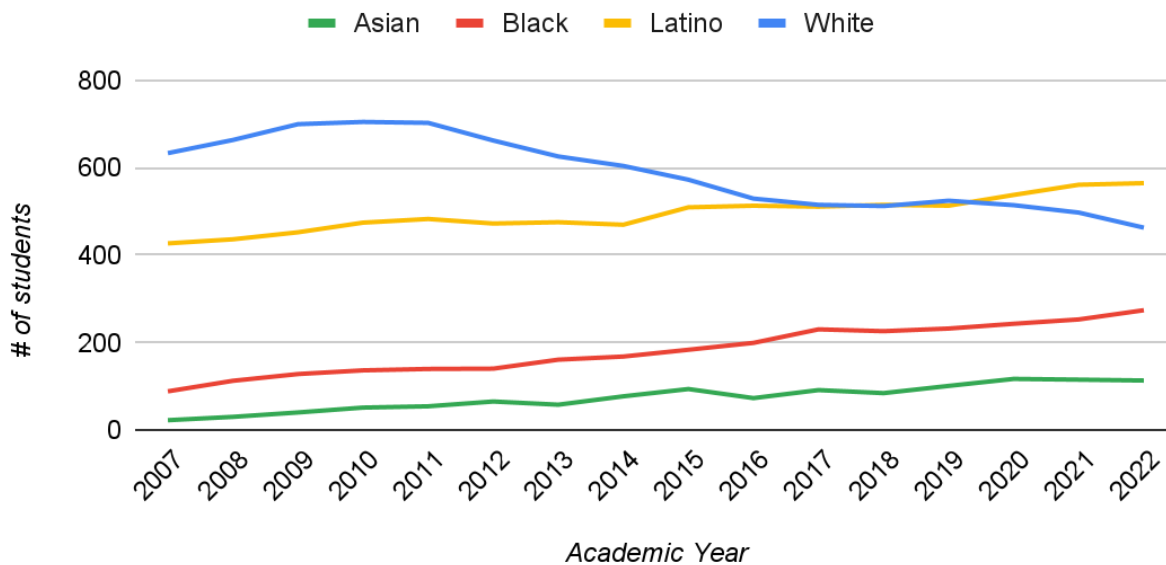
# Worcester Technical High School

Worcester Technical High School is the City of Worcester’s vocational school. With 1,476 students in AY 2022, it was the second highest enrolled school in WPS. Unlike the other WPS high schools, it is neither a neighborhood school nor a school that is subject to the dictates of the district’s quadrant system for enrollment. Because Worcester Tech pulls its students from the entire city, the school’s enrollment more closely mirrors the district enrollment than the other high schools. Even so, it is not precise. . For example, the district changeover to a Latino majority occurred in AY 2011 but it did not happen at Worcester Tech until 8 years later. Further, there are considerably more Latino students in WPS than at Worcester Tech: In AY 2022, 44.7% of district students were Latino and 27.9% were White, but at Worcester Tech, only 37.1% were Latino and 36.9% were White.



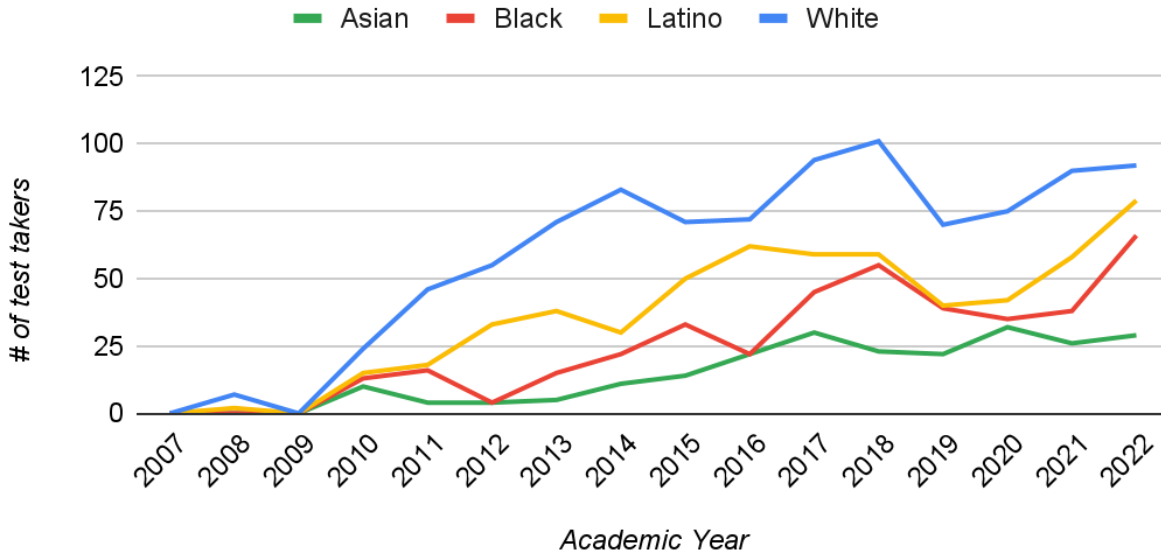
## Student Population by Race

**Worcester Tech, AY 2007 - AY 2022**



# Test Takers by Race

Worcester Tech, All AP Exams, AY 2007 - AY 2021



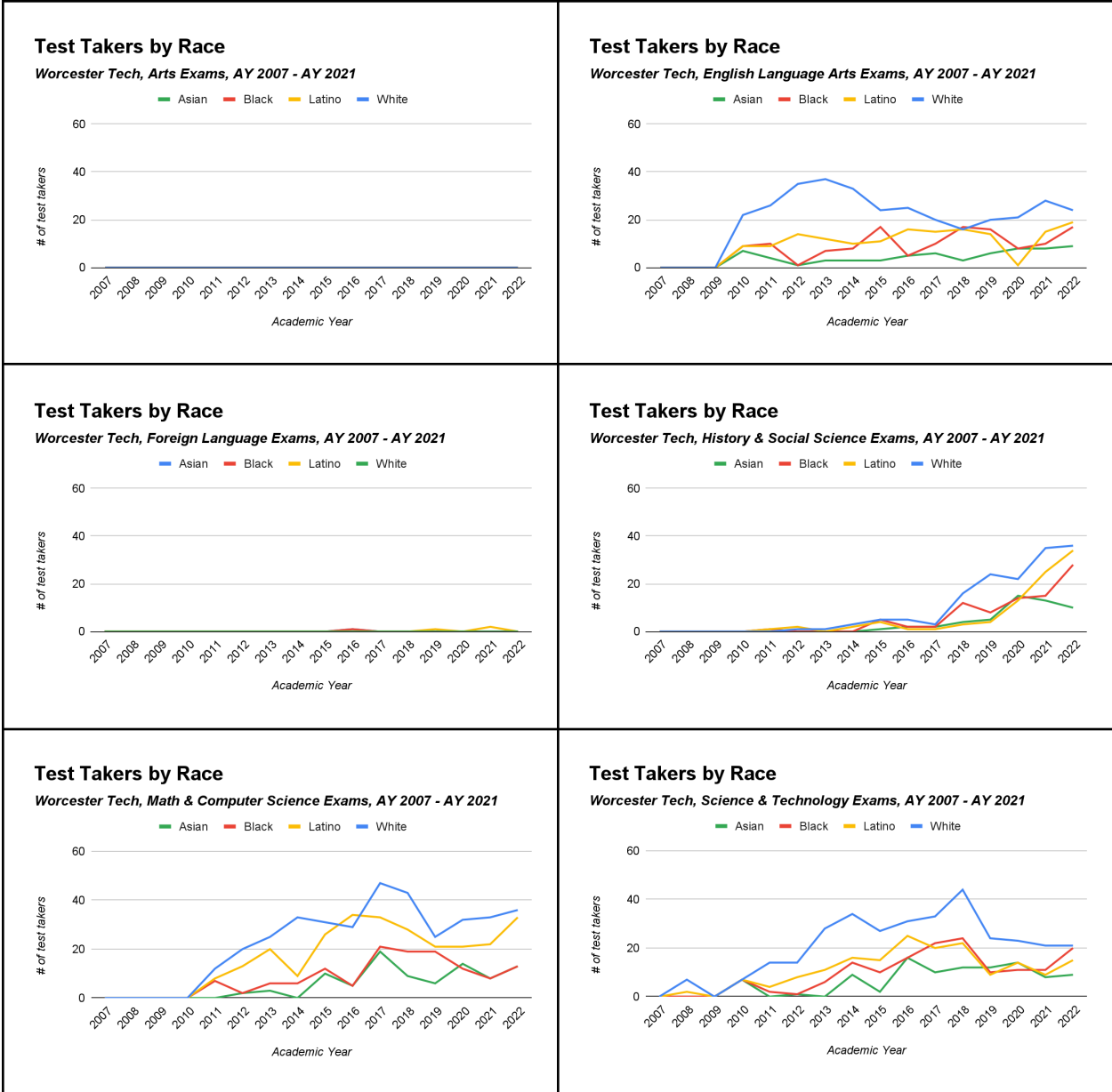
As is the case with many of the other Worcester high schools, despite a Latino plurality at Worcester Tech, White students have been taking AP exams more than any other group, particularly Latino students. However, that gap has been closing more significantly and more quickly at Worcester Tech than at the other large high schools. As the chart above shows, since the pandemic year there has been a steeper incline in Latino and Black AP test-takers than there has been with Asian or White test-takers. The chart showing the AP Testing and Enrollment numbers for AY 2022 shows the real numbers and percentages for each group. It shows that the difference between Latino enrollment and Latino AP participation -- these students participate approximately 10% less than their enrollment level -- has been taken up by the other major ethno-racial groups of the school. Asian, Black, and White students all take AP exams at a higher rate than Latino students do.

AP Testing and Enrollment by Race Worcester Tech, AY 2022					
	# Test Takers	% Test Takers	# Tests Taken	% Tests Taken	% Enrolled
Asian	29	10.5%	42	11.6%	7.7%
Black	66	23.9%	83	22.9%	18.6%
Latino	79	28.6%	101	27.8%	38.3%
White	92	33.3%	124	34.2%	31.4%

The individual area AP exam results similarly show the changes in participation for students of color at Worcester Tech, too. First, it is important to recognize that Tech students do not take AP Arts exams at all, and they rarely take AP Foreign Language exams. Accordingly, these charts are displayed as empty or nearly empty. But every other exam area has seen unprecedented gains in Latino and Black test-taking since AY 2020 and sometimes earlier. In a few areas, notably History & Social Science, Math & Computer Science, and Science & Technology, these groups are approaching parity with White test-takers. While it is not a mirror reflection of the enrollment at the school, it is trending toward that and considerably closer than other large public high schools in Worcester.

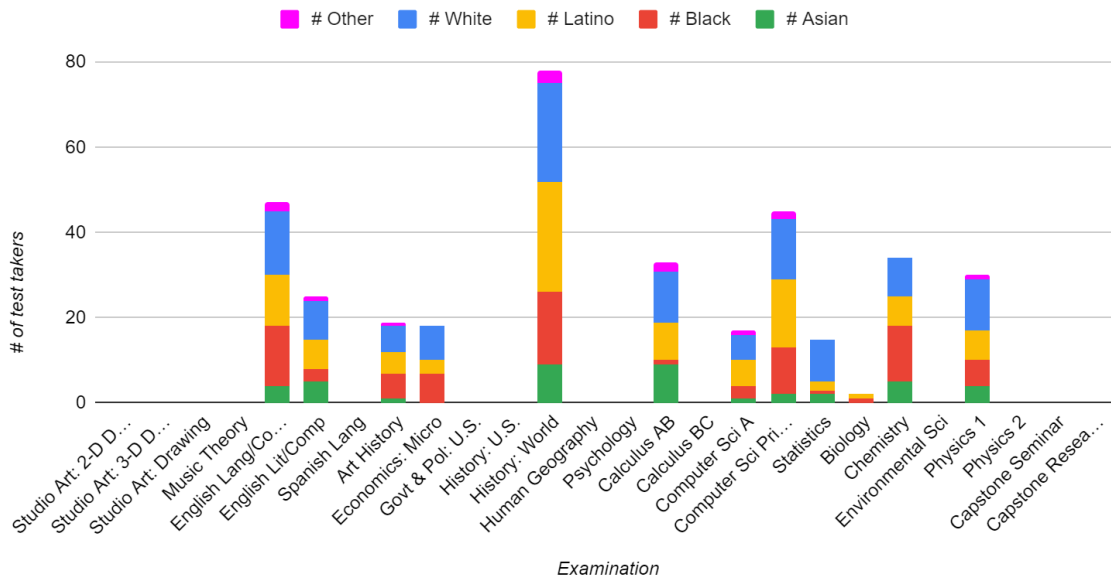
# Worcester Technical High School

## AP Participation by Race and Subject Area



## # Test Takers by Race by Exam

Worcester Tech, 2022, All Exams

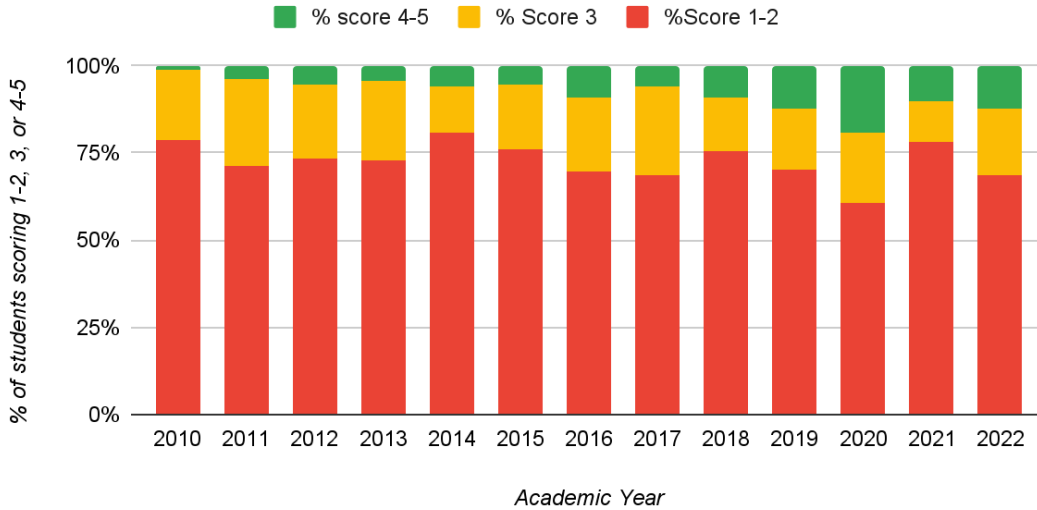


Worcester Tech’s relationship with the AP Program appears to have evolved over the last 16 years. Early in the period, from AY 2007 to AY 2009, only nine students took any test, the *AP Biology* exam, and scores were not reported. By AY 2010, Worcester Tech students were taking both English Language Arts exams and *AP Biology*. Gradually, more exams were added from the Math & Computer Science and Science & Technology areas. AP Art History was taken by a few students but it was not until AY 2018 that more History & Social Science exams were added, beginning with US History and then, during the pandemic, adding 6 more from this area. As noted above, AP Foreign Language exams were only sporadically taken at Worcester Tech and AP Arts exams are not offered at all. By AY 2022, the school’s most popular tests at the vocational were: *AP World History*, *AP English Language & Composition*, and *AP Computer Science Principles*. But, it is also true that the AP test selection at Worcester Tech is more limited than other Worcester public high schools.

The AP performance charts show that while scores of 4-5 have been improving slowly over time, at Worcester Tech, test-takers also fail their AP exams much more than they pass them. This makes Worcester Tech similar to all other district high schools. On average since AY 2007, test-takers here scored 4-5 only 7.9% of the time, while 72.6% of test-takers scored 1-2. Those earning 3 were 19.4%. Interestingly, test-takers appear to have performed better on humanities exams than they did on STEM tests.

# AP Scores

Worcester Tech, All Subjects, Asian Students, AY 2007 - AY 2022



## Worcester Technical High School AP Performance by Subject Area



# Worcester Technical High School

## *AP Performance by Race*



## AP Test Score Averages by Race

Worcester Tech, All Subjects, AY 2007 - AY 2022

