

**THE SCHOOL BOARD OF BROWARD COUNTY, FLORIDA**

**DANIEL GOHL  
CHIEF ACADEMIC OFFICER**

*Signatures on File*

September 1, 2017

TO: High School Principals  
Center Principals  
Charter High School Principals

FROM: Daniel F. Gohl  
Chief Academic Officer

VIA: Valerie S. Wanza, Ph.D.  
Chief School Performance & Accountability Officer

SUBJECT: **ADVANCED PLACEMENT RESULTS, 2014-15 THROUGH 2016-17**

The 2016-17 Advanced Placement (AP) results indicate positive findings for Broward County Public Schools (BCPS) students, as detailed in the attached Brief. Highlighted findings include:

- AP course participation in BCPS increased by 1,093 students from 2016 to 2017, bringing the participation rate to 25% (up from 23.7% in 2016). This same year 18,084 high school students took 33,059 AP exams, averaging 1.8 exams per participant.
- The participation rate among 11<sup>th</sup> and 12<sup>th</sup> grade students was 31.3%, an increase of 1.7 percentage points over the prior year.
- The passing rate increased by nearly two percentage points during each year under examination, from 50.7% in 2015 to 52.6% in 2016 to the current rate of 54.5%. This marks the third consecutive year the passing rate exceeded 50%.
- Computer Science AP exam participation increased from 350 students in 2016 to 1,081 students in 2017. This includes the Computer Science A exam with 277 students and the new Computer Science Principles exam with 804 students.
- Between different ethnic groups, achievement gaps have varied minimally over the past three years. Passing rates have increased across the board for all three racial groups.

If you have any comments concerning this memorandum or the attached brief, please contact **Richard Baum, Director, Student Assessment & Research at 754-321-2500**. For questions about AP courses or staff training, please contact **Bob McKinney, Advanced Studies Coordinator at 754-321-2119**.

VSW/DG/RGB/SLS/MJJ/rs  
Attachments

cc: School Board Members  
Senior Leadership Team  
Cadre Directors  
Jody Perry, Director, Charter School Support



# Assessment Brief

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Number 184

Report from the Office of the Superintendent

SeptemberAugust 2017

## ADVANCED PLACEMENT PROGRAM ENROLLMENT AND RESULTS, 2014-15 THROUGH 2016-17

This Brief presents enrollment rates and exam results for Broward County Public Schools' (BCPS) Advanced Placement (AP) program. The AP program provides an opportunity for high school students to experience college-level coursework and demonstrate mastery of content on national, subject-specific examinations. AP exams are scored on a scale of 1 to 5, and many colleges and universities will award course credit for scores of 3 or higher.<sup>1</sup>

### Student participation rates, overall and by ethnicity

Table 1

*High school enrollment<sup>2</sup> and AP exam participation in BCPS 2014-15 through 2016-17*

Grade	High School Enrollment	AP Enrollment	AP Exams	AP Participation Rate
<b>2014-15</b>				
Total	77,449	18,539	33,946	23.9
9th	19,602	2,912	3,088	14.9
10th	19,368	4,219	6,135	21.8
11th	18,757	5,820	12,023	31.0
12th	19,722	5,588	12,700	28.3
<b>2015-16</b>				
Total	78,171	18,543	34,047	23.7
9th	19,703	2,840	2,917	14.4
10th	19,948	4,306	6,561	21.6
11th	18,933	5,663	11,495	29.9
12th	19,587	5,734	13,074	29.3
<b>2016-17</b>				
Total	78,667	19,636	33,059	25.0
9th	19,588	2,582	2,454	13.2
10th	19,987	4,806	6,694	24.0
11th	19,465	6,218	11,462	31.9
12th	19,627	6,030	12,449	30.7

<sup>1</sup> For further information on the AP program, see <http://apcentral.collegeboard.com/home>

<sup>2</sup> Enrollment calculated using BCPS benchmark day enrollment data which is recorded on the 20<sup>th</sup> day of school

As shown in Table 1, BCPS' total high school enrollment **increased** slightly by 496 (less than 1%) students since the 2015-16 school year while AP participation **increased** by 1,093 (5.9%) students. Eleventh grade consistently had the highest participation, followed by 12<sup>th</sup> graders. The combined participation for 11<sup>th</sup> and 12<sup>th</sup> grade students was 31.3%, an increase of 1.7 percentage points. Despite more students participating in AP exams, the overall number of exams taken **decreased** by 988 (2.9%) exams.

AP participants took an average of 1.8 AP exams in 2016-17, though the level of participation varied across Broward's student groups (Table 2). Asian participants took more exams on average (2.4) than other students of any ethnicity. Black students tended to take slightly fewer exams (1.6) than the district average. Hispanic students participated at the district average of 1.8 exams per student, while White students participated just above the average, at 2.0 exams. Across the three years reviewed, while there has been slight variability in the numbers of program participants and exams administered, there has been almost no variation in the average number of exams taken in aggregate or by demographic group.

Table 2  
*Number of AP Students Tested, Number of AP Examinations, and Average Number of Exams by Ethnicity in Broward County, 2014-15 through 2016-17*

Ethnicity	2014-15			2015-16			2016-17		
	<i>N</i> Tested	<i>n</i> Exams	Avg. <i>n</i> Exams	<i>N</i> Tested	<i>n</i> Exams	Avg. <i>n</i> Exams	<i>N</i> Tested	<i>N</i> Exams	Avg. <i>n</i> Exams
Broward	18,539	33,946	1.8	18,543	34,047	1.8	18,084	33,059	1.8
Asian	1,341	3,244	2.4	1,369	3,181	2.3	1,357	3,209	2.4
Black	4,416	7,117	1.6	4,337	6,957	1.6	4,281	6,662	1.6
Hispanic	6,160	11,147	1.8	6,242	11,232	1.8	6,239	11,079	1.8
Multi-ethnic	497	913	1.8	572	1,076	1.9	547	1,054	1.9
Native									
American	61	103	1.7	65	108	1.7	62	122	2.0
White	6,064	11,422	1.9	5,958	11,493	1.9	5,597	10,932	2.0

### Average scores and passing rates for the district's largest ethnic groups

Figure 1 (next page) shows the passing rates for each of the three largest ethnic groups. All three groups have increased their passing rate for three consecutive years. Black students increased by 2.5%, Hispanic students increased by 3.8% and White students increased by 3.6% since the 2014- 15 school year.

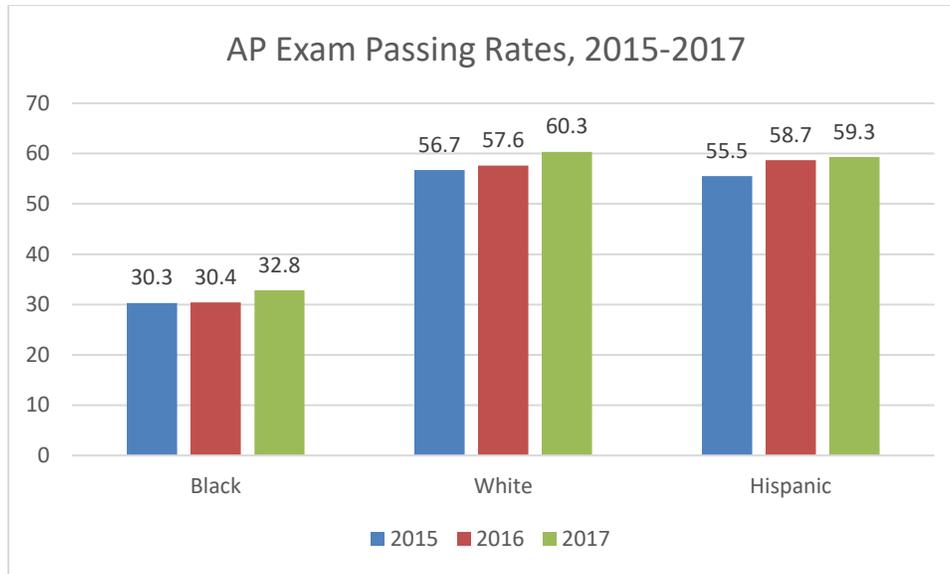


Figure 1. AP exam passing rates for three largest racial/ethnic groups, 2015 through 2016.

Table 3 displays performance on AP exams across student ethnic groups. Performance has differed across student ethnic groups. Asian, Hispanic, Multi-ethnic, and White students have maintained passing rates above 50% over the past three years. The proportion of Black students passing an AP exam increased by 2.4% over the past year, from 30.4 to 32.8 percent. Additionally, the mean score of Black students exceeded 2.0 for the third consecutive year, and has gotten progressively higher (2.03 in 2015, 2.06 in 2016, and 2.09 in 2017).

Table 3

AP Passing Rates and Mean Scores in BCPS by Ethnicity, 2014-15 through 2016-17

Ethnicity	2014-15			2015-16			2016-17		
	<i>n</i> Exams 3+	% Exams 3+	Mean Score	<i>n</i> Exams 3+	% Exams 3+	Mean Score	<i>n</i> Exams 3+	% Exams 3+	Mean Score
Broward	17,197	50.7	2.62	17,919	52.6	2.70	18,002	54.5	2.73
Asian	1,845	56.9	2.83	1,954	61.4	2.95	2,008	62.6	2.99
Black	2,158	30.3	2.03	2,115	30.4	2.06	2,187	32.8	2.09
Hispanic	6,185	55.5	2.79	6,596	58.7	2.90	6,571	59.3	2.89
Multi-ethnic	488	53.5	2.64	587	54.6	2.72	588	55.8	2.73
Native American	41	39.8	2.41	51	47.2	2.59	60	49.2	2.54
White	6,480	56.7	2.77	6,616	57.6	2.82	6,587	60.3	2.89

Performance gaps between Black and Hispanic students and their White peers have been a long-standing concern. Comparing last year's gap to this year, the gap in passing rates between Black and White students increased by .3 percentage points, while the gap between Hispanic and White students increased by 2.1 percentage points (Table 4). Notably, **the proportion of Hispanic**

students passing an AP exam exceeded that of White students in 2015-16 school year and although increased again for the third year the proportion of White students increased at a greater rate which resulted in a change in the gap between Hispanic and White students.

Table 4  
Differences in Percent of AP Exams Scored 3 or Above in BCPS by Ethnicity, 2014-15 through 2016-17

Group	Percent of Exams 3 or Above			Change in gap 2015-16 to 2016-17
	2014-15	2015-16	2016-17	
Black	30.3	30.4	32.8	
<i>Black and White Gap</i>	26.4	27.2	27.5	.3
White	56.7	57.6	60.3	
<i>White and Hispanic Gap</i>	1.2	-1.1	1.0	2.1
Hispanic	55.5	58.7	59.3	

Table 5 shows the gaps in the mean exam scores. In 2015-16, Hispanic students' mean score was slightly higher than White students', by .08 points. A small decrease in Hispanic students' mean score and an increase in White students' mean score resulted in no gap. Black students' mean score was .80 points lower than White students. **The Black-White score gap increased by .04 points, while the Hispanic-White gap has changed by .08 points, in favor of the White group.**

Table 5  
Differences in Mean AP Exam Scores in BCPS by Ethnicity, 2014-15 through 2016-17

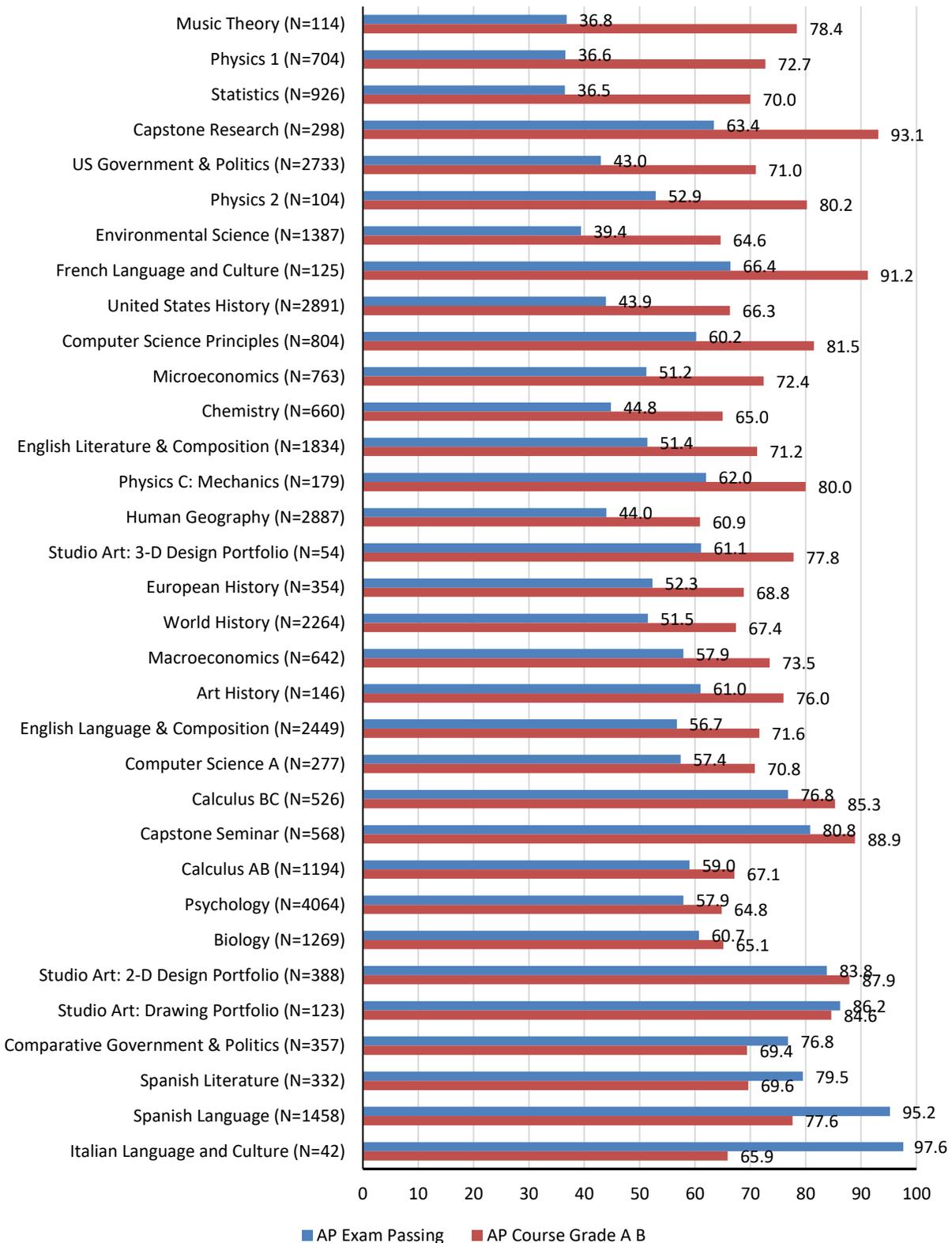
Group	Mean Exam Score			Change in gap 2015-16 to 2016-17
	2014-15	2015-16	2016-17	
Black	2.03	2.06	2.09	
<i>Black and White Gap</i>	.74	.76	.80	.04
White	2.77	2.82	2.89	
<i>White and Hispanic Gap</i>	-.02	-.08	.00	.08
Hispanic	2.79	2.90	2.89	

### Relationship between exam passing rates and course grades

Figure 2 (next page) examines the relationship between AP exam passing rates and course grades. It displays, by AP subject area, the percent of students earning an exam score of 3 or higher versus the percent of students earning a course grade of A or B. The subjects are sorted in the figure by magnitude of discrepancy between AP exam passing rate and course grade rate – from the largest discrepancy to the smallest. Two new AP tests were added this year: Capstone Research and Computer Science Principles. Only subjects with more than 20 students who have exam scores and course grades are included.

The difference between classroom grades and AP exam performance varied across subject areas. There were twelve subjects in which discrepancies of 20 to 42 points were noted: Music

Figure 2 AP Exam Passing Rates and Course Grades, 2016-17



Theory, Physics 1, Statistics, Capstone Research, US Government and Politics, Physics 2, Environmental Science, French Language, US History, Computer Science Principles, Microeconomics, and Chemistry. The large discrepancies between class grades and exam passing rates may suggest expectations for the class are not aligned well with the rigor of the exams. Five subjects saw more students passing the AP exam than earning an A or B in coursework: Studio Art: Drawing Portfolio, Comparative Government and Politics, Spanish Literature, Spanish Language, and Italian Language.

The most popular AP subjects – based on student participation – were Psychology (4,064 students), US History (2,891), Human Geography (2,887), and US Government and Politics (2,773). The subjects with the highest exam passing rates were Italian Language (97.6%), Spanish Language (95.2%), Studio Art: Drawing Portfolio (86.2%) and Studio Art – 2-D Design Portfolio (83.8%). Conversely, the subjects with the lowest exam passing rates were Statistics (36.5%), Physics 1 (36.6%), and Music Theory (36.8%).

### Summary

Across the three years examined, overall high school enrollment increased while the number of students participating in AP testing decreased slightly. The average number of exams taken by a student was unchanged, and the proportion of exams passed with a score of 3 or higher increased by about 2 percentage points each year.

The exam passing rate increased for the three main ethnic groups across the past three years, with 32.8 percent of Black students, 59.3 percent of Hispanic students, and 60.3 percent of White students achieving a score of 3 or higher on AP exams. While scores went up for all three groups, the gap between Black students and White students increased slightly (by 0.3 percentage points) over the past year. In 2016, the percent of Hispanic students passing the exam exceeded that of White students by 1.1 percentage points; this year, the percent of Hispanic students passing was 1 percentage point below that of White students.

Eleventh grade consistently had the highest participation, followed by 12<sup>th</sup>. The combined participation for 11<sup>th</sup> and 12<sup>th</sup> grade students was 31.3%, an increase of 1.7 percentage points. Computer Science AP exam participation increased from 350 students in 2016 to 1,081 students in 2017. This includes the Computer Science A exam with 277 students and the new Computer Science Principles exam with 804 students.

Several courses showed a discrepancy of 20% or more between students earning an A or B in the course but not passing the corresponding AP exam. This may suggest a misalignment of classroom expectations with exam knowledge requirements.

## Appendices

Additional school- and exam-level data are provided in the appendices. Appendix A provides three years of districtwide passing rates by AP exam. Appendix B provides 2016-17 passing rates for each AP exam by school. Appendix C provides aggregate AP exam results by school over a three-year period.

*Prepared by*

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