

## Advanced Placement Participation, Staffing, and Staff Training in the District of Columbia Public Schools

Appendix A. Methods

Appendix B. Supporting analyses

Appendix C. Other analyses

See <https://go.usa.gov/xstDa> for the full report.

### Appendix A. Methods

This appendix describes the data sources, sample, and analysis methods used to produce the descriptive statistics used to answer the study's research questions.

#### *Data sources*

The District of Columbia Public Schools (DCPS) provided the data used in this study. The data included student-level Advanced Placement (AP) enrollment data, which provided information on the students who enrolled in each AP course, the schools in which they did so, and the teacher who taught the course; student-level AP exam data, which provided information on whether students took or passed an AP exam; teacher-level characteristics data, which provided information on teachers' years of experience and college (undergraduate and graduate) major; and teacher-level Advanced Placement Summer Institute (APSI) participation data, which provided information on the teachers who attended the APSI and the course for which they did so. Table A1 provides the data elements created from these sources and the research questions (and policy issues) addressed using each data element.

**Table A1. Data elements and their use in the study**

Data element	Policy or recommendation area or other use
<b>Student-level demographic data (2011/12–2017/18)</b>	
Grade level	
Gender	
Race/ethnicity	
Special education status	Table reporting student demographics
English learner student status	
Eligibility for the national school lunch program	
Transferred schools in the prior year	
School served more racial/ethnic minority students than the median share in a given year	Teacher participation in the Advanced Placement Summer Institute (APSI)
<b>Student-level graduation data (2017/18)</b>	
Graduated	Table reporting student demographics
<b>Student-level Advanced Placement (AP) course enrollment (2014/15–2017/18)</b>	
Enrolled in an AP course, by course	Schoolwide AP course enrollment mandates
Enrolled in any AP course	Schoolwide AP course enrollment mandates Table reporting student demographics
School offered more AP courses than the median number in a given year	Teacher participation in the APSI
<b>Student-level AP exam data (2011/12–2017/18)</b>	
Took an AP exam, by course	
Took any AP exam	
Passed an AP exam, by course	Schoolwide AP course enrollment mandates
Passed any AP exam	
<b>Teacher-level characteristics file (2009/10–2017/18)</b>	
Years of teaching experience greater than the median	
College (undergraduate or graduate) major aligned with the AP course taught	Teacher participation in the APSI Alignment of AP teacher college major with AP course taught and its subject area
College (undergraduate or graduate) major aligned with the subject area of the AP course taught	
Years of teaching experience	
College major not missing	Table reporting teacher demographics
School where teacher taught	
AP course taught	
<b>Teacher-level APSI participation data</b>	
Participated in the APSI in any year, by course	
Participated in the APSI in any year in any course	Teacher participation in the APSI

Source: Authors' compilation.

### Sample

The sample differed across research questions (table A2). For research question 1, which examined AP exam taking and passing rates over time as schools began mandating AP course enrollment, the sample included all students enrolled in DCPS high schools in grades 10–12 that offered at least one AP course between 2011/12 and 2017/18. That sample included 55,910 student-year observations (see table A3 for the list of schools that mandated AP course enrollment and when they did so). Data on AP course enrollment were available only for 2014/15–2017/18. The supplemental analyses reported in appendix B that examine the share of students enrolling in AP courses over time as schools began mandating AP course enrollment are restricted to the 32,439 student-year observations during those years.

**Table A2. Analytic samples used, by research question**

Research question	Analysis	Sample
Research question 1 and supplemental analyses	Exam taking and passing rates in schools mandating and schools not mandating Advanced Placement (AP) course enrollment	Students in grades 10–12 enrolled in a District of Columbia Public Schools (DCPS) high school that offered an AP course between 2011/12 and 2017/18 (55,910 student-year observations)
Supplemental analyses	AP course enrollment rates in schools mandating and schools not mandating AP course enrollment (results reported in appendix B)	Students in grades 10–12 enrolled in a DCPS high school that offered an AP course between 2014/15 and 2017/18 (32,439 student-year observations)
Research questions 2 and 3 and supplemental analyses	Advanced Placement Summer Institute participation rates	All DCPS teachers teaching an AP course in 2016/17 or 2017/18 (366 teacher-year observations)
Research questions 4 and 5 and supplemental analyses	College major alignment with AP course taught and its subject area	All DCPS teachers with a college major on record who taught at least one AP course between 2014/15 and 2017/18 (277 teacher-year observations)

Source: Authors' compilation.

**Table A3. District of Columbia Public Schools (DCPS) high schools that mandated Advanced Placement course enrollment in or before the 2017/18 school year**

High school	School focus	AP requirement	Year mandate went into effect	Application requirements
Benjamin Banneker Academic High School	Academics	All grade 10 students take AP World History	2010/11	3.0 grade point average, "met expectations" on state standardized tests, recommendation letters, essay, interview
Columbia Heights Educational Campus	Dual language/ language immersion	All grade 11 students take AP English Language; all grade 12 students take AP English Literature	2012/13	Recommendation letters and interview
Duke Ellington School of the Arts	Visual and performing arts	All grade 10 students take at least one AP course	2017/18	Admissions test, recommendation letters, essay, interview, audition
McKinley Technology High School	Technology	All students take at least two AP courses during high school	2012/13	2.75 grade point average, "met expectations" on state standardized tests, recommendation letters, essay, interview
School Without Walls	Dual college enrollment at George Washington University	All grade 10 students take AP World History; all grade 11 students take AP English Language	2012/13	3.0 grade point average in core subjects, admissions test, interview

AP is Advanced Placement.

Note: Cardozo High School also had an AP mandate during the study period, but the mandate was limited to subsets of students in particular years, so the school was excluded from the analyses of AP exam taking and passing rates. In 2016/17 all mainstream grade 12 students (those who were not in the school's International Academy) took AP English Literature, and in 2017/18 all mainstream grade 12 students took AP English Literature and all grade 12 students in the International Academy took AP English Language. The mandate was discontinued after 2017/18.

Source: Survey of District of Columbia Public Schools (DCPS) high school administrators conducted in fall 2019; application requirements for the 2017/18 school year were obtained from the DCPS public website.

For research questions 2 and 3, which examined patterns in APSI participation rates among AP teachers, the sample included all AP teachers in 2016/17 and 2017/18. These school years correspond with the APSI participation data from the summers of 2016 and 2017. Data on APSI participation are also available for the summer of 2018, though course data from 2018/19 were not available. To align the study's measure of APSI

participation with DCPS’s policy recommendation that all AP teachers participate in the APSI once every three years, the study team considered teachers to have participated if they attended at any point in the summer of 2016, 2017, or 2018. This analysis included 366 teacher-year observations.

For research questions 4 and 5, which examined patterns in alignment of AP teachers’ college major with the AP course they taught and its subject area, the sample was restricted to the years for which AP enrollment data were available (2014/15–2017/18) because these data were needed to determine which teachers were assigned to AP courses. The data were also restricted to the AP teachers with a college major on record. Of the 699 teacher-year observations during those years, a college major was on record for 277 (40 percent of the sample).

### ***Analysis methods***

The study team addressed each research question using descriptive statistics. When comparing means across groups, differences of 5 percentage points or more were considered substantively important.

To examine patterns in AP testing and passing rates over time as schools began mandating AP course enrollment, the study team created an indicator variable at the student-by-year level equal to 1 if a student took an AP exam that year and an indicator variable equal to 1 if a student passed an AP exam that year. The mean of each indicator variable was then calculated by year and by school, with all schools that did not mandate AP course enrollment pooled together.

To examine patterns in APSI participation rates, the study team created an indicator variable equal to 1 if the AP teacher attended the APSI at any time from 2016 to 2018. The mean of this indicator variable was calculated by year, by AP course taught (in which those who taught multiple courses were included in each course they taught), by school, by school characteristics, and by teacher characteristics. When schools or teachers were grouped using a continuous measure, the median for that year served as the dividing line. For example, to examine APSI participation rates among schools with higher and lower percentages of racial/ethnic minority students, schools were divided into two groups: those whose share of racial/ethnic minority students was above the year-specific median and those whose share was below the median.

To examine patterns in the alignment of college major and the AP course taught and its subject area, the study team mapped AP courses and their subject areas to college majors (see below). To measure alignment, the study team created an indicator variable equal to 1 if teachers’ college major aligned with the specific AP course they taught and an indicator variable equal to 1 if teachers’ college major aligned with the broad subject area of the AP course they taught. The means of these indicator variables were calculated by year, by AP course taught, and by subject area of the AP course taught.

The study team calculated the share of student-course observations for which the teacher participated in the APSI or whose college major was aligned with the AP course they taught or its subject area using teacher-level measures weighted by the number of student-course observations in an AP course taught by that teacher. For example, if a teacher taught both AP Calculus AB and AP Statistics and if each class had 30 students, that teacher received a weight of 60. This method gave equal weight to each student-course observation.

*Mapping AP courses and their subject areas to college majors.* Table A4 shows the college majors in the data and the AP courses and their subject areas that the study team mapped to them. The study team developed this mapping in consultation with DCPS stakeholders, and it was informed by AP course descriptions. First, the study team reviewed publicly available descriptions of college majors, using The Princeton Review (n.d.), and compared them to the College Board’s descriptions of AP courses to determine which majors were aligned with which AP courses. DCPS stakeholders then reviewed this initial mapping and suggested some revisions, which were adopted. In some instances the study team considered a college major aligned with more than one AP course. For example, a biochemistry major is considered aligned with both AP Biology and AP Chemistry. Some majors, such

as secondary or special education, were not considered to be aligned with any AP course or subject area. DCPS then reviewed and approved the final mapping of AP courses and their subject areas to and college majors.

**Table A4. Mapping of Advanced Placement courses and their subject areas to college majors**

Subject area	AP course	Aligned college major
Art	Studio Art/2-D Design	Art, studio art
	Studio Art/3-D Design	
	Studio Art/Drawing	
English	English Language and Composition	Creative writing, English, English literature, journalism
	English Literature and Composition	
Math	Calculus AB	Math
	Calculus BC	
	Computer Science A	Computer engineering, computer science
	Computer Science Principles	
No specific course <sup>a</sup>	Civil engineering, electrical engineering	
Science	Biology	Biochemistry, biology
	Chemistry	Biochemistry, chemistry
	Environmental Science	Environmental chemistry, environmental health sciences
	Physics 1: Algebra-Based	Engineering, physics
	Physics 2: Algebra-Based	
Physics C: Mechanics		
Social studies	Comparative Government	Government, international relations, political science
	Human Geography	Anthropology, geography, international relations
	Macroeconomics	Economics
	Microeconomics	
	Psychology	Psychology
	U.S. Government	Government, political science
	U.S. History	History
	World History	
No specific course <sup>a</sup>	Ethnic and regional studies, philosophy, religion/religious studies, social science, social studies, sociology	
World languages	Chinese Language and Culture	Foreign language <sup>b</sup>
	French Language and Culture	Foreign language <sup>b</sup>
	Spanish Language and Culture	Foreign language, Spanish
	Spanish Literature and Culture	
No AP subject	No AP course	Business majors (for example, accounting, marketing, management), classical studies, communications, education majors (for example, curriculum and instruction, educational leadership, educational technology, secondary education, special education, teaching), interdepartmental studies, law, public administration, social work, sport and health sciences, theology

AP is Advanced Placement.

a. These majors aligned with a broad AP subject area but not with a specific AP course.

b. District of Columbia Public Schools (DCPS) teacher characteristics data do not specify a language for foreign language majors.

Note: The table includes all AP courses taught by the sample of teachers with a college major on record and all of their majors.

Source: DCPS teacher characteristics data and DCPS AP course enrollment data.

## References

The Princeton Review. (n.d.). "Find a Major." Retrieved February 2, 2020, from [www.princetonreview.com/majors/all](http://www.princetonreview.com/majors/all).

## Appendix B. Supporting analyses

This appendix provides additional analyses that support the findings from the main report. It first presents 2017/18 demographic information of students in schools that mandated AP course enrollment and schools that did not, by whether the student enrolled in an AP course (table B1). It then presents findings related to the policy and recommendations covered in the research questions: school-level mandates for Advanced Placement (AP) course enrollment, teacher participation in the Advanced Placement Summer Institute (APSI), and alignment of AP teachers' college major with AP course taught and its subject area.

Table B1 presents demographics of grade 10–12 students in 2017/18 for schools that mandated AP course enrollment and for other District of Columbia Public School (DCPS) high schools and for students who enrolled in an AP course and for students who did not. Compared with other DCPS high schools, schools that mandated AP course enrollment had fewer students from disadvantaged groups, such as students eligible for the national student lunch program, students receiving special education services, Black students, and students who transferred from another high school in the prior year.

**Table B1. Characteristics of District of Columbia Public School students in grades 10–12, by school mandate status and student Advanced Placement course enrollment status, 2017/18 (percent of students)**

Characteristic	High schools mandating AP course enrollment			Other DCPS high schools		
	Enrolled in an AP course ( <i>n</i> = 1,963)	Did not enroll in an AP course ( <i>n</i> = 385)	All students ( <i>n</i> = 2,348)	Enrolled in an AP course ( <i>n</i> = 2,202)	Did not enroll in an AP course ( <i>n</i> = 3,093)	All students ( <i>n</i> = 5,295)
Grade level						
Grade 10	27	72	35	20	47	36
Grade 11	36	19	33	37	30	33
Grade 12	37	9	32	43	23	31
Female	61	51	59	55	43	48
Race						
Black	58	63	59	60	79	71
White	32	29	32	32	18	24
Multiracial	3	—	3	3	1	2
Asian	3	—	3	4	1	2
American Indian/ Alaskan Native	3	5	3	1	0	0
Hispanic (any race)	30	36	31	17	19	18
Receiving special education services	3	8	4	5	24	16
English learner student	12	19	13	10	15	13
Eligible for the national school lunch program	21	30	23	33	51	43
Transferred schools <sup>a</sup>	1	8	2	7	19	14
Graduate (among grade 12 students)	97	100	97	95	75	87

— is not reported because fewer than 10 students contribute to this value.

AP is Advanced Placement. DCPS is District of Columbia Public Schools.

a. Indicates that the student attended another high school in the prior school year.

Source: DCPS AP course enrollment data for 2017/18 and DCPS student-level demographics file for 2017/18.

### School-level mandates for Advanced Placement course enrollment

Table B2 presents the percentage of students who enrolled in at least one AP course by grade and year for each school that mandated AP course enrollment and for other DCPS high schools. AP course enrollment data were available only for 2014/15–2017/18, which means that enrollment before and after the mandate went into place could be examined for only one school—Duke Ellington School of the Arts. In that school AP course enrollment increased dramatically in grade 10 (the grade in which students were required to enroll in an AP course), from 15 percent in 2016/17, the year before the mandate went into place, to 93 percent in 2017/18, the year after. Consistent with this finding, table B3 shows that the change in AP enrollment among students at Duke Ellington School of the Arts was driven by an increase in the share of students enrolling in one AP course.

**Table B2. Percentage of District of Columbia Public School students in grades 10–12 who enrolled in at least one Advanced Placement course, by high school, school year, and grade level, 2014/15–2017/18**

School year and grade level	High schools mandating AP course enrollment					
	Benjamin Banneker Academic High School (n = 294–352)	Columbia Heights Educational Campus (n = 688–848)	Duke Ellington School of the Arts (n = 392–406)	McKinley Technology High School (n = 432–481)	School Without Walls (n = 433–457)	Other DCPS high schools (n = 5,295–6,016)
<b>2014/15</b>						
10	92	32	22	24	94	18
11	51	94	43	78	84	30
12	57	96	47	60	87	31
Grades 10–12	70	70	38	55	89	26
<b>2015/16</b>						
10	98	24	20	41	88	17
11	50	94	60	87	85	31
12	71	83	60	91	84	29
Grades 10–12	75	65	47	72	86	25
<b>2016/17</b>						
10	95	28	15	38	93	21
11	46	93	45	91	90	35
12	76	93	74	79	86	36
Grades 10–12	73	70	42	65	90	30
<b>2017/18</b>						
10	98	33	93	32	98	23
11	45	93	48	93	91	42
12	60	96	53	81	90	44
Grades 10–12	68	73	67	68	93	36

AP is Advanced Placement. DCPS is District of Columbia Public Schools.

Note: Values in red indicate the years in which each school mandated that students enroll in AP courses. McKinley Technology High School required that all students take at least two AP courses during high school but did not require specific AP courses in specific grades; its mandate went into place for grade 9 students entering in 2012/13, and the first year in which these students could have completed the requirements by grade 12 was 2015/16. The sample size (n) represents the range in the number of students in grades 10–12 in each school between 2014/15 and 2017/18.

Source: DCPS AP course enrollment data for 2014/15–2017/18.

**Table B3. Percentages of District of Columbia Public School students in grades 10–12 who enrolled in one, two, and three or more Advanced Placement courses, by high school and school year, 2014/15–2017/18**

School year	High schools mandating AP course enrollment					
	Benjamin Banneker Academic High School (n = 294–352)	Columbia Heights Educational Campus (n = 688–848)	Duke Ellington School of the Arts (n = 392–406)	McKinley Technology High School (n = 432–481)	School Without Walls (n = 433–457)	Other DCPS high schools (n = 5,295–6,016)
<b>Students who enrolled in one AP course</b>						
2014/15	53	43	25	35	38	14
2015/16	55	45	29	47	40	13
2016/17	54	36	22	47	31	16
2017/18	47	52	51	48	29	18
<b>Students who enrolled in two AP courses</b>						
2014/15	14	20	10	17	21	6
2015/16	18	14	13	21	26	7
2016/17	13	24	13	16	29	8
2017/18	18	16	12	17	24	10
<b>Students who enrolled in three or more AP courses</b>						
2014/15	—	8	3	2	29	6
2015/16	—	7	4	4	19	6
2016/17	7	11	6	—	30	7
2017/18	3	5	5	3	39	8

— is not reported because fewer than 10 students contribute to this value.

AP is Advanced Placement. DCPS is District of Columbia Public Schools.

Note: Values in red indicate the years in which each school mandated that students enroll in AP courses. McKinley Technology High School required that all students take at least two AP courses during high school but did not require specific AP courses in specific grades; its mandate went into place for grade 9 students entering in 2012/13, and the first year in which these students could have completed the requirements by grade 12 was 2015/16. The sample size (n) represents the range in the number of students in grades 10–12 in each school between 2014/15 and 2017/18.

Source: DCPS student-level AP exam records for 2014/15–2017/18.

Table B4 presents the share of students who took at least one AP exam by grade and year for each school that mandated AP course enrollment and for all other DCPS high schools. The largest increase in testing rates after the mandate went into place was among grade 10 students at Duke Ellington School of the Arts, from 14 percent in 2016/17 to 87 percent in 2017/18. In McKinley Technology High School the AP exam taking rate for grade 11 students also increased after the mandate went into place, from 53 percent to 74 percent. Table B5 presents the shares of students who took one, two, and three or more AP exams, which confirm the findings of increased AP exam taking in Duke Ellington School of the Arts and McKinley Technology High School.



**Table B4. Percentage of District of Columbia Public School students in grades 10–12 who took at least one Advanced Placement exam, by high school, school year, and grade level, 2011/12–2017/18**

School year and grade level	High schools mandating AP course enrollment					
	Benjamin Banneker Academic High School (n = 290–352)	Columbia Heights Educational Campus (n = 615–848)	Duke Ellington School of the Arts (n = 379–406)	McKinley Technology High School (n = 432–497)	School Without Walls (n = 372–457)	Other DCPS high schools (n = 5,295–6,016)
<b>2011/12</b>						
10	94	18	7	0	92	10
11	82	86	33	74	77	20
12	67	90	32	54	85	20
Grades 10–12	83	64	23	43	84	16
<b>2012/13</b>						
10	97	14	28	20	90	12
11	51	80	40	67	91	22
12	61	90	46	62	83	22
Grades 10–12	71	60	37	48	88	18
<b>2013/14</b>						
10	98	13	19	24	89	14
11	48	80	28	53	82	26
12	48	90	39	58	83	24
Grades 10–12	64	59	28	43	85	21
<b>2014/15</b>						
10	90	26	22	24	94	16
11	51	85	41	74	84	27
12	57	87	43	52	87	27
Grades 10–12	69	62	35	51	88	23
<b>2015/16</b>						
10	98	17	20	39	92	16
11	50	86	55	85	85	27
12	71	73	50	84	83	25
Grades 10–12	75	57	41	68	87	22
<b>2016/17</b>						
10	94	21	14	38	92	19
11	46	83	45	90	89	30
12	74	84	69	72	85	30
Grades 10–12	72	61	40	63	88	26
<b>2017/18</b>						
10	97	27	87	31	97	19
11	45	85	48	91	90	37
12	60	92	49	79	85	36
Grades 10–12	67	67	64	67	91	30

AP is Advanced Placement. DCPS is District of Columbia Public Schools.

Note: Values in red indicate the years in which each school mandated that students enroll in AP courses. McKinley Technology High School required that all students take at least two AP courses during high school but did not require specific AP courses in specific grades; its mandate went into place for grade 9 students entering in 2012/13, and the first year in which these students could have completed the requirements by grade 12 was 2015/16. The sample size (n) represents the range in the number of students in grades 10–12 in each school between 2011/12 and 2017/18.

Source: DCPS student-level AP exam records for 2011/12–2017/18.

**Table B5. Percentages of District of Columbia Public School students in grades 10–12 who took one, two, and three or more Advanced Placement exams, by high school and school year, 2011/12–2017/18**

School year	High schools mandating AP course enrollment					
	Benjamin Banneker Academic High School (n = 290–352)	Columbia Heights Educational Campus (n = 615–848)	Duke Ellington School of the Arts (n = 379–406)	McKinley Technology High School (n = 432–497)	School Without Walls (n = 372–457)	Other DCPS high schools (n = 5,295–6,016)
<b>Students who took one AP exam</b>						
2011/12	66	36	15	27	47	9
2012/13	60	36	27	39	37	10
2013/14	49	32	18	33	36	12
2014/15	52	37	23	35	37	12
2015/16	55	39	25	46	41	12
2016/17	53	34	21	47	30	14
2017/18	46	48	48	47	30	15
<b>Students who took two AP exams</b>						
2011/12	13	21	—	13	17	4
2012/13	8	17	6	7	28	5
2013/14	13	19	7	9	22	5
2014/15	14	16	10	14	20	5
2015/16	18	11	12	18	26	6
2016/17	13	19	13	14	30	7
2017/18	18	15	12	17	24	8
<b>Students who took three or more AP exams</b>						
2011/12	4	7	4	3	21	3
2012/13	3	8	4	2	23	4
2013/14	—	8	3	—	27	5
2014/15	—	9	3	—	31	5
2015/16	—	7	4	4	20	5
2016/17	6	8	—	—	29	6
2017/18	3	4	5	3	37	7

— is not reported because fewer than 10 students contribute to this value.

AP is Advanced Placement. DCPS is District of Columbia Public Schools.

Note: Values in red indicate the years in which each school mandated that students enroll in AP courses. McKinley Technology High School required that all students take at least two AP courses during high school but did not require specific AP courses in specific grades; its mandate went into place for grade 9 students entering in 2012/13, and the first year in which these students could have completed the requirements by grade 12 was 2015/16. The sample size (n) represents the range in the number of students in grades 10–12 in each school between 2011/12 and 2017/18.

Source: DCPS AP course enrollment data for 2011/12–2017/18.

Table B6 presents the share of students in grades 10–12 who passed at least one AP exam by grade and year for each school that mandated AP course enrollment and for all other DCPS high schools. In Duke Ellington School of the Arts the share of grade 10 students passing at least one AP exam more than doubled, from 6 percent to 13 percent, after the mandate went into place. In School Without Walls the share of grade 11 students who passed at least one AP exam increased from 54 percent to 66 percent after the mandate went into place in 2012/13. Although few students passed two or more AP exams in a year, the share of students who did so increased over the study period in Benjamin Banneker Academic High School (table B7).

**Table B6. Percentage of District of Columbia Public School students in grades 10–12 who passed at least one Advanced Placement exam, by high school, school year, and grade level, 2011/12–2017/18**

School year and grade level	High schools mandating AP course enrollment					
	Benjamin Banneker Academic High School (n = 290–352)	Columbia Heights Educational Campus (n = 615–848)	Duke Ellington School of the Arts (n = 379–406)	McKinley Technology High School (n = 432–497)	School Without Walls (n = 372–457)	Other DCPS high schools (n = 5,295–6,016)
<b>2011/12</b>						
10	12	8	3	0	62	4
11	12	17	13	8	54	6
12	28	14	20	4	41	5
Grades 10–12	17	13	11	4	53	5
<b>2012/13</b>						
10	7	5	4	1	49	5
11	11	12	14	7	66	6
12	26	21	21	5	48	5
Grades 10–12	13	12	12	4	54	5
<b>2013/14</b>						
10	20	8	3	1	63	5
11	6	20	14	7	56	7
12	17	15	21	8	52	5
Grades 10–12	14	14	12	5	57	6
<b>2014/15</b>						
10	29	15	9	2	48	5
11	18	18	10	7	62	7
12	28	16	26	10	48	8
Grades 10–12	26	16	15	6	53	7
<b>2015/16</b>						
10	56	9	5	13	76	6
11	21	9	14	10	60	7
12	37	7	16	14	55	7
Grades 10–12	40	8	12	13	64	7
<b>2016/17</b>						
10	43	13	6	11	64	8
11	25	13	10	18	74	9
12	33	6	22	12	60	7
Grades 10–12	34	11	12	13	66	8
<b>2017/18</b>						
10	64	15	13	10	86	10
11	33	13	17	18	66	11
12	28	13	28	12	67	8
Grades 10–12	42	14	19	13	73	10

AP is Advanced Placement. DCPS is District of Columbia Public Schools.

Note: Values in red indicate the years in which each school mandated that students enroll in AP courses. McKinley Technology High School required that all students take at least two AP courses during high school but did not require specific AP courses in specific grades; its mandate went into place for grade 9 students entering in 2012/13, and the first year in which these students could have completed the requirements by grade 12 was 2015/16. The sample size (n) represents the range in the number of students in grades 10–12 in each school between 2011/12 and 2017/18.

Source: DCPS student-level AP exam records for 2011/12–2017/18.

**Table B7. Percentages of District of Columbia Public School students in grades 10–12 who passed one and two or more Advanced Placement exams, by high school and school year, 2011/12–2017/18**

School year	High schools mandating AP course enrollment					
	Benjamin Banneker Academic High School (n = 290–352)	Columbia Heights Educational Campus (n = 615–848)	Duke Ellington School of the Arts (n = 379–406)	McKinley Technology High School (n = 432–497)	School Without Walls (n = 372–457)	Other DCPS high schools (n = 5,295–6,016)
<b>Students who passed one AP exam</b>						
2011/12	13	13	9	3	32	2
2012/13	11	11	9	3	27	2
2013/14	13	12	8	4	26	3
2014/15	20	15	12	6	27	3
2015/16	32	7	10	11	35	3
2016/17	27	9	10	10	27	4
2017/18	32	12	15	11	31	5
<b>Students who passed two or more AP exams</b>						
2011/12	4	—	—	—	21	3
2012/13	—	—	3	—	27	3
2013/14	—	2	3	—	31	3
2014/15	5	1	3	—	26	4
2015/16	8	1	—	—	29	3
2016/17	7	2	—	3	39	4
2017/18	10	2	4	—	42	5

— is not reported because fewer than 10 students contribute to this value.

AP is Advanced Placement. DCPS is District of Columbia Public Schools.

Note: Values in red indicate the years in which each school mandated that students enroll in AP courses. McKinley Technology High School required that all students take at least two AP courses during high school but did not require specific AP courses in specific grades; its mandate went into place for grade 9 students entering in 2012/13, and the first year in which these students could have completed the requirements by grade 12 was 2015/16. The sample size (n) represents the range in the number of students in grades 10–12 in each school between 2011/12 and 2017/18.

Source: DCPS student-level AP exam records for 2011/12–2017/18.

Tables B8–B13 present AP course enrollment, AP exam taking, and AP exam passing rates by high school, focusing on the grades in which students were required to take an AP course and the specific courses they were required to take.

**Table B8. Enrollment in and exam taking and passing rates for Advanced Placement World History among grade 10 students at Benjamin Banneker Academic High School, by year, 2011/12–2017/18**

School year	Number of grade 10 students	Percent who enrolled in AP World History	Percent who took AP World History exam	Percent who passed AP World History Exam
2011/12	135	na	94	12
2012/13	107	na	97	—
2013/14	90	na	98	20
2014/15	119	92	90	29
2015/16	128	98	98	56
2016/17	136	95	94	43
2017/18	113	98	97	64

na is not available because AP course enrollment data were not available for that school year.

— is not reported because fewer than 10 students contribute to this value.

AP is Advanced Placement.

Note: Values in red indicate the years in which the school mandated that grade 10 students enroll in AP World History.

Source: District of Columbia Public Schools (DCPS) AP course enrollment data for 2014/15–2017/18 and DCPS student-level AP exam records for 2011/12–2017/18.

**Table B9. Enrollment in and exam taking and passing rates for Advanced Placement (AP) English Language among grade 11 students and AP English Literature among grade 12 students at Columbia Heights Educational Campus, by year, 2011/12–2017/18**

School year	AP English Language in grade 11				AP English Literature in grade 12			
	Number of students	Percent who enrolled in course	Percent who took exam	Percent who passed exam	Number of students	Percent who enrolled in course	Percent who took exam	Percent who passed exam
2011/12	210	na	—	0	190	na	11	—
2012/13	228	na	0	0	229	na	22	0
2013/14	230	na	78	—	213	na	0	0
2014/15	223	92	82	—	191	96	85	—
2015/16	277	94	84	—	245	80	70	—
2016/17	275	91	80	—	272	91	80	—
2017/18	246	91	83	—	236	95	92	—

na is not available because AP course enrollment data were not available for that school year.

— is not reported because fewer than 10 students contribute to this value.

AP is Advanced Placement.

Note: Values in red indicate the years in which the school mandated that grade 11 students enroll in AP English Language and grade 12 students enroll in AP English Literature.

Source: District of Columbia Public Schools (DCPS) AP course enrollment data for 2014/15–2017/18 and DCPS student-level AP exam records for 2011/12–2017/18.

**Table B10. Enrollment in and exam taking and passing rates for Advanced Placement (AP) English Language in grade 11 and AP English Literature in grade 12 among English learner students at Columbia Heights Educational Campus, by year, 2011/12–2017/18**

School year	AP English Language in grade 11				AP English Literature in grade 12			
	Number of students	Percent who enrolled in course	Percent who took exam	Percent who passed exam	Number of students	Percent who enrolled in course	Percent who took exam	Percent who passed exam
2011/12	84	na	—	0	65	na	8	0
2012/13	103	na	—	0	73	na	22	0
2013/14	95	na	71	0	78	na	0	0
2014/15	92	98	83	0	59	98	86	0
2015/16	111	93	81	0	49	82	69	0
2016/17	110	94	81	0	73	93	78	—
2017/18	88	93	82	0	75	99	95	0

na is not available because AP course enrollment data were not available for that school year.

— is not reported because fewer than 10 students contribute to this value.

AP is Advanced Placement. DCPS is District of Columbia Public Schools. APSI is Advanced Placement Summer Institute.

Note: Values in red indicate the years in which the school mandated that grade 11 students enroll in AP English Language and grade 12 students enroll in AP English Literature.

Source: District of Columbia Public Schools (DCPS) AP course enrollment data for 2014/15–2017/18 and DCPS student-level AP exam records for 2011/12–2017/18.

**Table B11. Enrollment in and exam taking and passing rates for Advanced Placement courses among grade 10 students at Duke Ellington School of the Arts, by year, 2011/12–2017/18**

School year	Number of grade 10 students	Percent who enrolled in any AP course	Percent who took any AP exam	Percent who passed any AP exam
2011/12	147	na	7	—
2012/13	144	na	28	—
2013/14	160	na	19	—
2014/15	129	22	22	9
2015/16	139	20	20	—
2016/17	155	15	14	—
2017/18	159	<b>93</b>	<b>87</b>	<b>13</b>

na is not available because AP course enrollment data were not available for that school year.

— is not reported because fewer than 10 students contribute to this value.

AP is Advanced Placement.

Note: Values in red indicate the years in which the school mandated that grade 10 students enroll in at least one AP course.

Source: District of Columbia Public Schools (DCPS) AP course enrollment data for 2014/15–2017/18 and DCPS student-level AP exam records for 2011/12–2017/18.

**Table B12. Enrollment in and exam taking and passing rates for Advanced Placement courses among grade 9 cohorts at McKinley Technology High School, by year, 2011/12–2014/15**

Grade 9 cohort year	Number of students in cohort	Percent who enrolled in at least two AP courses by grade 12	Percent who took any two AP exams by grade 12	Percent who passed any two AP exams by grade 12
2011/12	201	na	38	5
2012/13	230	<b>na</b>	<b>62</b>	—
2013/14	283	<b>na</b>	<b>51</b>	<b>5</b>
2014/15	203	<b>71</b>	<b>69</b>	<b>10</b>

na is not available because AP course enrollment data were not available for that school year.

— is not reported because fewer than 10 students contribute to this value.

AP is Advanced Placement.

Note: Values in red indicate the years in which the school mandated that the grade 9 cohorts enroll in at least two AP courses by grade 12.

Source: District of Columbia Public Schools (DCPS) AP course enrollment data for 2014/15 and DCPS student-level AP exam records for 2011/12–2014/15.

**Table B13. Enrollment in and exam taking and passing rates for Advanced Placement (AP) World History among grade 10 students and for AP English Language among grade 11 students at School Without Walls, by year, 2011/12–2017/18**

School year	AP World History in grade 10				AP English Language in grade 11			
	Number of students	Percent who enrolled in course	Percent who took exam	Percent who passed exam	Number of students	Percent who enrolled in course	Percent who took exam	Percent who passed exam
2011/12	122	na	91	61	134	na	39	32
2012/13	151	<b>na</b>	<b>89</b>	<b>47</b>	122	<b>na</b>	<b>77</b>	<b>55</b>
2013/14	152	<b>na</b>	<b>89</b>	<b>62</b>	152	<b>na</b>	<b>68</b>	<b>45</b>
2014/15	143	<b>94</b>	<b>94</b>	<b>45</b>	148	<b>72</b>	<b>72</b>	<b>49</b>
2015/16	156	<b>88</b>	<b>91</b>	<b>74</b>	156	<b>84</b>	<b>84</b>	<b>52</b>
2016/17	149	<b>93</b>	<b>92</b>	<b>61</b>	157	<b>90</b>	<b>89</b>	<b>70</b>
2017/18	140	<b>97</b>	<b>96</b>	<b>85</b>	148	<b>91</b>	<b>89</b>	<b>61</b>

na is not available because AP course enrollment data were not available for that school year.

Note: Values in red indicate the years in which the school mandated that grade 10 students enroll in AP World History and grade 11 students enroll in AP English Language.

Source: District of Columbia Public Schools (DCPS) AP course enrollment data for 2014/15–2017/18 and DCPS student-level AP exam records for 2011/12–2017/18.

## Teacher participation in the APSI

This section presents supplementary results related to teachers' APSI participation. It first presents the share of teachers who participated in the APSI in the summer before teaching an AP course, followed by the number of participants by subject area and course. It then presents the share of teachers and the share of students<sup>1</sup> with a teacher who participated in the APSI at least once over three years by school and teacher characteristics.

The share of AP teachers participating in the APSI in the summer before teaching an AP course suggests that few teachers are complying with the recommendation to participate in the APSI at least once every three years for each AP course they teach. If teachers were complying, the participation rate each year would be 33 percent on average. But the actual participation rate was 13 percent in 2016 and 17 percent in 2017 (table B14). The share of AP teachers in the 2016/17 school year who participated in the APSI at least once in the summer of 2016, 2017, or 2018 (13 percent) was similar to the share of AP teachers in the 2017/18 school year who did so (16 percent).

Nearly all teachers who participated in the APSI did so for a course that they taught in the school year after the training. The participation rates for at least one course they taught and for any course taught were nearly the same (see table B14).

**Table B14. Participation rates in the Advanced Placement Summer Institute among Advanced Placement teachers in District of Columbia Public Schools high schools before the 2016/17 and 2017/18 school years**

Year of APSI participation	Number of AP teachers	Percentage of teachers participating in the APSI for at least one course taught during the following school year	Percentage of teachers participating in the APSI for any course taught during the following school year
2016	176	13	13
2017	190	16	17

APSI is Advanced Placement Summer Institute. AP is Advanced Placement.

Note: For the purpose of this analysis, each record with a missing employee ID was counted as a unique AP teacher. APSI participation during 2016 corresponds to courses taught during the 2016/17 school year, and APSI participation during 2017 corresponds to courses taught during the 2017/18 school year.

Source: District of Columbia Public Schools (DCPS) records on APSI participation for the summers of 2016 and 2017 and DCPS AP course enrollment data and DCPS teacher records for 2016/17 and 2017/18.

Teachers' three-year APSI participation rate (defined as having attended the APSI at any point between 2016 and 2018) ranged from 0 percent to 31 percent across high schools (table B15). In some schools the share of AP students whose teacher participated in the APSI at least once during the three-year period differed greatly from the share of AP teachers who participated. For example, in School Without Walls and Cardozo High School the percentage of AP students whose teacher participated was higher than the percentage of AP teachers who participated, indicating that AP teachers who participated in the APSI taught more AP students than did AP teachers who did not participate.

<sup>1</sup> These calculations use student-course observations, the unique combinations of students and courses. For example, if a student takes two AP courses, there are two student-course observations for that student. For simplicity, these are referred to as student observations in the text.

**Table B15. Three-year participation rate in the Advanced Placement Summer Institute among Advanced Placement (AP) teachers in District of Columbia Public Schools high schools and percentage of AP students whose teacher participated, 2016–18**

High school	Number of AP teachers, 2017/18	Teachers' three-year APSI participation rate <sup>a</sup> (percent)	Number of AP students, 2017/18	Percent of AP students whose teacher participated in the APSI
Duke Ellington School of the Arts	13	31	272	26
Cardozo High School	11	27	240	39
Wilson	39	26	887	30
Woodson	8	25	129	25
Benjamin Banneker Academic High School	10	20	230	—
McKinley Technology High School	10	20	302	20
School Without Walls	20	15	415	20
Anacostia	7	14	55	11
Phelps	7	14	48	—
Coolidge	8	13	61	—
Roosevelt	8	13	65	—
Dunbar	11	9	184	9
Columbia Heights Educational Campus	22	0	546	0
Ballou	6	0	90	0
Eastern	8	0	130	0

— is not reported because fewer than 10 students contribute to this value.

APSI is Advanced Placement Summer Institute.

a. Defined as attending the APSI in at least one summer in 2016, 2017, or 2018.

Note: District of Columbia Public Schools (DCPS) recommends that AP teachers participate in the APSI for the AP course they teach at least once every three years. Calculations for the percentage of students use student-course observations, the unique combinations of students and courses. For example, if a student takes two AP courses, there are two student-course observations for that student.

Source: DCPS records on APSI participation for the summers of 2016, 2017, and 2018 and DCPS AP course enrollment data and DCPS teacher records for 2016/17 and 2017/18.



**Table B16. Number of Advanced Placement (AP) teachers in District of Columbia Public Schools high schools who participated in the Advanced Placement Summer Institute, by AP subject and course**

AP subject area or course	Participating teachers in 2016, 2017, or 2018
English	25
English Language and Composition	13
English Literature and Composition	12
Social studies	31
U.S. Government	—
U.S. History	10
World History	11
Math	12
Calculus AB	—
Science	19
Biology	—
Arts	—
World language	—
All AP courses	102

— is not reported because fewer than 10 teachers contribute to this count.

Note: Courses with fewer than five teachers are included in the relevant subject area count but are not included in the course count. See table A4 in appendix A for the mapping of AP courses to subject areas.

Source: District of Columbia Public Schools (DCPS) records on Advanced Placement Summer Institute participation for the summers of 2016, 2017, and 2018 and DCPS AP course enrollment data and DCPS teacher records for 2017/18.

### ***Alignment of AP teachers' college major with AP course taught and its subject area***

This section presents supplementary results related to the alignment of AP teachers' college major with AP course taught and its subject area. It presents results for the share of teachers who had an aligned college major and the share of students whose teacher had an aligned college major, by year, subject area, school characteristic, and teacher experience. It concludes with a comparison of the characteristics of AP teachers with a college major on record, who were included in the analyses, and of AP teachers without a college major on record, who were excluded from the analyses.

The percentage of AP teachers with an aligned college major varied by subject area, high school characteristics, and teacher background characteristics (tables B17–B21). The percentage of AP teachers whose college major aligned with the specific AP course they taught ranged from 22 percent for world languages to 67 percent for English. The percentage of AP teachers whose college major aligned with the broader subject area of the AP course they taught ranged from 26 percent for world languages to 94 percent for science. According to discussions with DCPS leaders (personal communication, February 24, 2020), AP teachers of world languages might be less likely to have a college major aligned with the subject area of the AP course they taught because they might be native speakers of the language. This underscores the fact that principals making staffing decisions have more information about teachers' ability and background than can be observed in administrative data.

**Table B17. Percentage of Advanced Placement (AP) teachers in District of Columbia Public Schools high schools with an aligned college major and percentage of AP students whose teacher had an aligned college major, by school year, 2014/15–2017/18**

School year	Number of AP teachers with a college major on record	Percent of teachers whose college major aligned with		Number of students taught by those AP teachers	Percent of students whose teacher's college major aligned with	
		Each AP course they taught	The subject area of each AP course they taught		Each AP course they taught	The subject area of each AP course they taught
2014/15	40	60	75	2,974	56	79
2015/16	67	51	67	3,262	49	69
2016/17	78	47	71	3,561	45	72
2017/18	92	46	66	3,684	46	68
Average across all years	69	51	70	3,370	49	72

Note: The analyses of college major alignment are limited to teachers with a college (undergraduate or graduate) major on record. Alignment with an AP course refers to the narrow topic area of the course (for example, a physics major who teaches AP Physics), whereas alignment with the subject area is defined more broadly (for example, any science major who teaches any AP science course). See table A4 in appendix A for the mapping of AP courses and subject areas to college majors. Calculations for the percentage of students use student-course observations, the unique combinations of students and courses. For example, if a student takes two AP courses, there are two student-course observations for that student.

Source: District of Columbia Public Schools (DCPS) AP course enrollment data and DCPS teacher records for 2014/15–2017/18.

**Table B18. Percentage of Advanced Placement (AP) teachers in District of Columbia Public Schools high schools with an aligned college major and percentage of AP students whose teacher had an aligned college major, by subject, 2014/15–2017/18**

AP subject	Number of AP teachers with a college major on record	Percent of teachers whose college major aligned with		Number of students taught by those AP teachers	Percent of students whose teacher's college major aligned with	
		Each AP course they taught	The subject area of each AP course they taught		Each AP course they taught	The subject area of each AP course they taught
Social studies	21	26	68	1,855	27	78
English	21	67	67	1,812	67	67
Science	12	64	94	701	69	94
Math	7	55	69	595	66	74
World languages	6	22	26	353	17	19

Note: The analyses of college major alignment are limited to teachers with a college (undergraduate or graduate) major on record. Alignment with an AP course refers to the narrow topic area of the course (for example, a physics major who teaches AP Physics), whereas alignment with the subject area is defined more broadly (for example, any science major who teaches any AP science course). See table A4 in appendix A for the mapping of AP courses and subject areas to college majors. Calculations for the percentage of students use student-course observations, the unique combinations of students and courses. For example, if a student takes two AP courses, there are two student-course observations for that student.

Source: District of Columbia Public Schools (DCPS) AP course enrollment data and DCPS teacher records for 2014/15–2017/18.

**Table B19. Percentage of Advanced Placement (AP) teachers in District of Columbia Public Schools high schools with an aligned college major and percentage of AP students whose teacher had an aligned college major, by high school characteristic**

High school characteristic	Number of AP teachers with a college major on record	Percent of teachers whose college major aligned with		Number of students taught by those AP teachers	Percent of students whose teacher's college major aligned with	
		Each AP course they taught	The subject area of each AP course they taught		Each AP course they taught	The subject area of each AP course they taught
Schools offering more AP courses	38	50	71	2,639	50	77
Schools offering fewer AP courses	31	48	66	724	45	60
Application schools	26	47	65	1,725	38	68
Nonapplication schools	43	51	71	1,645	57	75
Schools with higher percentages of racial/ethnic minority students	24	53	68	524	56	66
Schools with lower percentages of racial/ethnic minority students	45	47	69	2,839	47	74
Schools with higher percentages of English learner students	47	49	70	2,350	46	73
Schools with lower percentages of English learner students	22	49	66	1,013	59	70

Note: The analyses of college major alignment are limited to teachers with a college (undergraduate or graduate) major on record. Alignment with an AP course refers to the narrow topic area of the course (for example, a physics major who teaches AP Physics), whereas alignment with the subject area of an AP course is defined more broadly (for example, any science major who teaches any AP science course). See table A4 in appendix A for the mapping of AP courses and subject areas to college majors. Calculations for the percentage of students use student-course observations, the unique combinations of students and courses. For example, if a student takes two AP courses, there are two student-course observations for that student. The cutoffs between schools with more and fewer AP courses, higher and lower percentages of racial/ethnic minority students, and higher and lower percentages of English learner students are the year-specific median for each measure across high schools in the sample. The medians across years ranged from 8 to 11 for AP courses offered, was about 99 percent in all years for percentage of racial/ethnic minority students, and ranged from 2 percent to 4 percent of English learner students

Source: District of Columbia Public Schools (DCPS) AP course enrollment data and DCPS teacher records for 2014/15–2017/18.

**Table B20. Percentage of District of Columbia Public Schools high school Advanced Placement (AP) teachers with an aligned college major and percentage of AP students whose teacher had an aligned college major, by teacher experience level, 2014/15–2017/18**

Teacher experience level	Number of AP teachers with a college major on record	Percentage of teachers whose college major aligned with		Percentage of students whose teacher's college major aligned with	
		Each AP course they taught	Each AP subject they taught	Each AP course they taught	Each AP subject they taught
More experience	27	54	73	65	78
Less experience	42	47	67	41	70

Note: The analyses on the college major alignment are limited to teachers with a college (undergraduate or graduate) major on record. Alignment with an AP course refers to the narrow topic area of the course (for example, a physics major who teaches AP Physics), whereas alignment with the subject area of an AP course is defined more broadly (for example, any science major who teaches any AP science course). See table A4 in appendix A for the mapping of AP courses and subject areas to college majors. The cutoff between those with less and those with more teaching experience is the median number of years across the sample of AP teachers, which was eight years.

Source: District of Columbia Public Schools (DCPS) AP course enrollment data and DCPS teacher records for 2014/15–2017/18.

**Table B21. Characteristics of Advanced Placement teachers in District of Columbia Public Schools high schools, by availability of data on college major, 2017/18**

Characteristic (percent unless otherwise noted)	AP teachers with a college major on record ( <i>n</i> = 93–95)	AP teachers without a college major on record ( <i>n</i> = 75–95)
Years of teaching experience (mean and standard deviation)	6.9 (4.2)	12.0 (7.0)
Subject area (percent)		
Social studies	32	31
English	28	22
Science	18	17
Math	11	14
Art	—	12
World languages	—	—

— is not reported because fewer than 10 teachers contribute to this value.

AP is Advanced Placement.

Note: See table A4 in appendix A for the mapping of AP subject areas to college majors.

Source: District of Columbia Public Schools (DCPS) AP course enrollment data and DCPS teacher records for 2017/18.

## Appendix C. Other analyses

This appendix provides additional analyses related to Advanced Placement (AP) course enrollment, AP exam taking, and AP exam passing rates among students who enrolled in at least one AP course, took at least one AP exam, and passed at least one AP exam (tables C1–C6).

**Table C1. Percentages of District of Columbia Public Schools students in grades 10–12 who took and passed an Advanced Placement (AP) exam among students who enrolled in at least one AP course, by high school and school year, 2014/15–2017/18**

School year	Benjamin Banneker Academic High School (n = 205–258)		Columbia Heights Educational Campus (n = 481–593)		Duke Ellington School of the Arts (n = 147–269)		McKinley Technology High School (n = 258–328)		School Without Walls (n = 384–411)		Other DCPS high schools (n = 1,421–1,880)	
	Took	Passed	Took	Passed	Took	Passed	Took	Passed	Took	Passed	Took	Passed
2014/15	99	37	89	23	95	39	92	11	99	59	89	26
2015/16	100	53	87	13	89	25	95	17	99	72	88	26
2016/17	99	47	88	15	95	29	97	20	99	73	87	27
2017/18	100	62	91	18	94	27	98	19	98	79	85	28

Note: Values in red indicate the years in which each school mandated that students enroll in AP courses. McKinley Technology High School required that all students take at least two AP courses during high school but did not require specific AP courses in specific grades; its mandate went into place for grade 9 students entering in 2012/13, and the first year in which these students could have completed the requirements by grade 12 was 2015/16. The sample size (n) represents the range in the number of students in grades 10–12 who enrolled in at least one AP course in each school between 2014/15 and 2017/18.

Source: DCPS student-level AP exam records for 2014/15–2017/18.

**Table C2. Percentages of District of Columbia Public Schools students in grades 10–12 who enrolled in one, two, and three or more Advanced Placement courses among students who enrolled in at least one AP course, by high school and school year, 2014/15–2017/18**

School year	High schools mandating AP course enrollment					
	Benjamin Banneker Academic High School (n = 205–258)	Columbia Heights Educational Campus (n = 481–593)	Duke Ellington School of the Arts (n = 147–269)	McKinley Technology High School (n = 258–328)	School Without Walls (n = 384–411)	Other DCPS high schools (n = 1,421–1,880)
<b>Students who enrolled in one AP course</b>						
2014/15	76	61	67	65	43	54
2015/16	73	68	62	66	47	50
2016/17	73	51	54	73	34	52
2017/18	69	71	75	71	31	50
<b>Students who enrolled in two AP courses</b>						
2014/15	20	28	27	31	24	23
2015/16	24	21	29	29	31	27
2016/17	18	34	32	25	32	26
2017/18	26	22	17	25	26	27
<b>Students who enrolled in three or more AP courses</b>						
2014/15	—	11	7	4	33	22
2015/16	—	11	10	5	22	23
2016/17	9	15	14	—	34	22
2017/18	5	7	7	4	42	23

— is not reported because fewer than 10 students contribute to this value.

DCPS is District of Columbia Public Schools.

Note: Values in red indicate the years in which each school mandated that students enroll in AP courses. McKinley Technology High School required that all students take at least two AP courses during high school but did not require specific AP courses in specific grades; its mandate went into place for grade 9 students entering in 2012/13, and the first year in which these students could have completed the requirements by grade 12 was 2015/16. The sample size (n) represents the range in the number of students in grades 10–12 who enrolled in at least one AP course in each school between 2014/15 and 2017/18.

Source: DCPS student-level AP exam records for 2014/15–2017/18.

**Table C3. Percentage of District of Columbia Public Schools students in grades 10–12 who took an Advanced Placement (AP) exam among students who enrolled in at least one AP course, by high school and school year, 2014/15–2017/18**

School year and grade level	High schools mandating AP course enrollment					
	Benjamin Banneker Academic High School (n = 205–258)	Columbia Heights Educational Campus (n = 481–593)	Duke Ellington School of the Arts (n = 147–269)	McKinley Technology High School (n = 258–328)	School Without Walls (n = 384–411)	Other DCPS high schools (n = 1,421–1,880)
<b>2014/15</b>						
10	97	82	100	100	99	90
11	100	90	95	95	99	88
12	100	91	91	85	99	88
Grades 10–12	99	89	95	92	99	89
<b>2015/16</b>						
10	100	72	100	95	100	92
11	100	91	92	98	98	88
12	100	87	83	92	99	86
Grades 10–12	100	87	89	95	99	88
<b>2016/17</b>						
10	99	73	91	100	99	90
11	100	89	100	99	99	88
12	97	91	93	92	98	83
Grades 10–12	99	88	95	97	99	87
<b>2017/18</b>						
10	99	78	93	98	99	83
11	100	91	100	99	99	89
12	100	95	92	98	95	82
Grades 10–12	100	91	94	98	98	85

DCPS is District of Columbia Public Schools.

Note: Values in red indicate the years in which each school mandated that students enroll in AP courses. McKinley Technology High School required that all students take at least two AP courses during high school but did not require specific AP courses in specific grades; its mandate went into place for grade 9 students entering in 2012/13, and the first year in which these students could have completed the requirements by grade 12 was 2015/16. The sample size (n) represents the range in the number of students in grades 10–12 who enrolled in at least one AP course in each school between 2014/15 and 2017/18.

Source: DCPS student-level AP exam records for 2014/15–2017/18.

**Table C4. Percentages of District of Columbia Public Schools students in grades 10–12 who took one, two, and three or more Advanced Placement (AP) exams among students who took at least one AP exam, by high school and school year, 2011/12–2017/18**

School year	High schools mandating AP course enrollment					
	Benjamin Banneker Academic High School (n = 185–255)	Columbia Heights Educational Campus (n = 391–520)	Duke Ellington School of the Arts (n = 86–255)	McKinley Technology High School (n = 209–311)	School Without Walls (n = 314–404)	Other DCPS high schools (n = 876–1,610)
<b>Students who took one AP exam</b>						
2011/12	80	57	65	63	55	53
2012/13	84	59	73	81	42	55
2013/14	78	54	64	77	42	55
2014/15	76	59	65	69	42	53
2015/16	73	68	61	68	47	52
2016/17	73	56	53	75	33	52
2017/18	69	72	75	71	33	49
<b>Students who took two AP exams</b>						
2011/12	16	33	15	31	20	27
2012/13	11	28	15	15	32	25
2013/14	20	32	26	21	26	22
2014/15	21	26	28	28	23	23
2015/16	24	19	29	26	30	25
2016/17	18	31	34	22	34	27
2017/18	27	23	18	25	26	27
<b>Students who took three or more AP exams</b>						
2011/12	4	10	20	6	25	20
2012/13	—	13	12	4	26	20
2013/14	—	14	10	—	32	23
2014/15	—	14	7	—	35	23
2015/16	—	13	10	5	23	23
2016/17	9	13	13	—	33	22
2017/18	4	5	7	4	41	24

— is not reported because fewer than 10 students contribute to this value.

DCPS is District of Columbia Public Schools.

Note: Values in red indicate the years in which each school mandated that students enroll in AP courses. McKinley Technology High School required that all students take at least two AP courses during high school but did not require specific AP courses in specific grades; its mandate went into place for grade 9 students entering in 2012/13, and the first year in which these students could have completed the requirements by grade 12 was 2015/16. The sample size (n) represents the range in the number of students in grades 10–12 who took at least one AP exam in each school between 2011/12 and 2017/18.

Source: DCPS student-level AP exam records from 2011/12 to 2017/18.



**Table C5. Percentage of District of Columbia Public Schools students in grades 10–12 who passed an Advanced Placement (AP) exam among students who took at least one AP exam, by high school and school year, 2011/12–2017/18**

School year and grade level	High schools mandating AP course enrollment					
	Benjamin Banneker Academic High School (n = 185–255)	Columbia Heights Educational Campus (n = 391–520)	Duke Ellington School of the Arts (n = 86–255)	McKinley Technology High School (n = 209–311)	School Without Walls (n = 314–404)	Other DCPS high schools (n = 876–1,610)
<b>2011/12</b>						
10	13	46	—	—	68	37
11	—	20	39	11	71	28
12	42	16	62	—	48	24
Grades 10–12	20	21	49	9	63	29
<b>2012/13</b>						
10	—	39	—	—	54	40
11	21	15	35	11	73	27
12	42	23	44	—	58	24
Grades 10–12	19	21	33	8	61	29
<b>2013/14</b>						
10	20	59	—	—	70	35
11	—	25	49	13	68	27
12	35	16	53	14	63	23
Grades 10–12	22	24	42	11	67	28
<b>2014/15</b>						
10	32	58	41	—	51	33
11	34	21	24	9	74	27
12	50	19	61	19	55	29
Grades 10–12	37	26	41	12	60	29
<b>2015/16</b>						
10	58	53	—	33	82	40
11	43	10	25	12	70	26
12	52	10	32	17	66	26
Grades 10–12	53	15	28	18	73	30
<b>2016/17</b>						
10	46	60	48	28	69	42
11	55	15	23	20	83	31
12	44	7	31	16	70	24
Grades 10–12	47	17	30	21	75	31
<b>2017/18</b>						
10	65	57	14	31	89	54
11	74	15	36	20	74	29
12	47	14	57	15	79	23
Grades 10–12	62	20	29	20	81	33

— is not reported because fewer than 10 students contribute to this value.

DCPS is District of Columbia Public Schools.

Note: Values in red indicate the years in which each school mandated that students enroll in AP courses. McKinley Technology High School required that all students take at least two AP courses during high school but did not require specific AP courses in specific grades; its mandate went into place for grade 9 students entering in 2012/13, and the first year in which these students could have completed the requirements by grade 12 was 2015/16. The sample size (*n*) represents the range in the number of students in grades 10–12 who took at least one AP exam in each school between 2011/12 and 2017/18.

Source: DCPS student-level AP exam records for 2011/12–2017/18.

**Table C6. Percentages of District of Columbia Public Schools students in grades 10–12 who passed one and two or more Advanced Placement (AP) exams among students who passed at least one AP exam, by high school and school year, 2011/12–2017/18**

School year	High schools mandating AP course enrollment					
	Benjamin Banneker Academic High School ( <i>n</i> = 39–141)	Columbia Heights Educational Campus ( <i>n</i> = 69–113)	Duke Ellington School of the Arts ( <i>n</i> = 42–74)	McKinley Technology High School ( <i>n</i> = 19–63)	School Without Walls ( <i>n</i> = 197–324)	Other DCPS high schools ( <i>n</i> = 250–527)
<b>Students who passed one AP exam</b>						
2011/12	78	95	81	84	60	45
2012/13	82	91	75	74	49	45
2013/14	90	88	72	87	46	46
2014/15	80	91	82	93	50	43
2015/16	79	86	83	88	55	49
2016/17	79	82	85	76	41	50
2017/18	77	84	78	82	43	52
<b>Students who passed two or more AP exams</b>						
2011/12	22	—	—	—	40	55
2012/13	—	—	25	—	51	55
2013/14	—	13	28	—	54	54
2014/15	20	9	18	—	50	57
2015/16	21	14	—	—	45	51
2016/17	21	18	—	24	59	50
2017/18	23	16	22	18	57	48

— is not reported because fewer than 10 students contribute to this value.

DCPS is District of Columbia Public Schools.

Note: Values in red indicate the years in which each school mandated that students enroll in AP courses. McKinley Technology High School required that all students take at least two AP courses during high school but did not require specific AP courses in specific grades; its mandate went into place for grade 9 students entering in 2012/13, and the first year in which these students could have completed the requirements by grade 12 was 2015/16. The sample size (*n*) represents the range in the number of students in grades 10–12 who passed at least one AP exam in each school between 2011/12 and 2017/18.

Source: DCPS student-level AP exam records for 2011/12–2017/18.