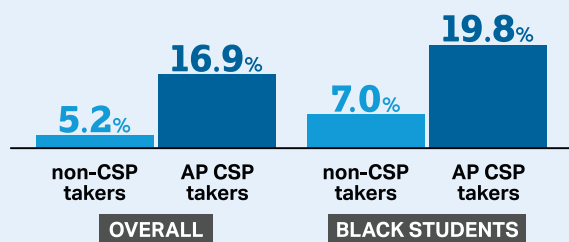# New Data: **AP** Computer Science Principles Is Helping to Diversify the Computer Science Pipeline

New research shows that students who take AP Computer Science Principles—especially Black, Hispanic, women, and first-generation students—are more likely to declare STEM and computer science majors in college.

Students who take AP Computer Science Principles are **~3x** more likely to major in computer science in college.

16.9% — AP CSP takers (OVERALL)
5.2% — non-CSP takers (OVERALL)
19.8% — AP CSP takers (BLACK STUDENTS)
7.0% — non-CSP takers (BLACK STUDENTS)

Differences are as significant for female, Black (shown above), Hispanic, and first-generation students.

Research Highlights

Students who took AP CSP in high school were more than three times as likely to major in computer science in college than similar students who did not take AP CSP. The impact AP CSP made on college majors was similarly large for female, Black, Hispanic, and first-generation college students.

AP CSP students are nearly twice as likely to enroll in AP Computer Science A (CSA)—a more programming-focused course—than students who did not take AP CSP, thus notably reducing AP CSA race/ethnicity enrollment gaps. Black students who take AP CSP are three times more likely to take AP CSA. This is virtually the same share as Asian AP CSP students, who have long led AP CSA participation.

AP CSP may serve as a stepping stone to other advanced STEM coursework. For the class of 2019, more than half of the students who took AP CSP were taking their first AP STEM course. The number of Black, Hispanic, and first-generation students was even higher.

What Employers Are Saying

"We're excited that today's research shows further evidence that courses like AP CSP—which we provide for thousands of our Amazon Future Engineer schools across the U.S.—are preparing a more diverse group of students to enter the 21st century workforce."

—Shanika Hope, Head, Amazon Future Engineer, U.S.

Why Computer Science Matters

- In 2019, there were 389,000 computing job openings but fewer than 72,000 computer science graduates to fill them.

- Meanwhile, the median annual wage for computer and information technology occupations was $88,240 in May 2019.

- College freshmen who declare a computer science major take a critical step toward receiving the second highest-paid college degree in the nation, according to the National Association of Colleges and Employers.

What Policymakers Can Do

- Assure student access by requiring all schools to offer computer science

- Accelerate teacher preparation by developing clear and multiple pathways so more educators can teach computer science

- Allow AP CSP and AP CSA to count as high school math or science courses for high school graduation requirements

- Ensure alignment between high school graduation and college admissions requirements