# 2024 State of Computer Science Education

The United States is at a critical juncture in education policy: How do we prepare our students for a world increasingly driven by computing and generative artificial intelligence? Since the last edition of this report, there has been growing recognition among U.S. policymakers of the urgency of this issue, with 11 states now requiring students to earn credit in computer science to graduate from high school. The 2024 State of Computer Science Report urges policymakers to ensure that all students in every state learn computer science.

Over the last eight years, there has been significant progress, with more students than ever before taking computer science. Yet, millions of students still lack opportunities to engage in this essential subject. Only 60% of public high schools offer a foundational computer science course, and just 6.4% of high school students are enrolled annually. Young women, in particular, are far less likely to take computer science. This disparity underscores the urgent need for action.

The need for computer science education is understood worldwide. In 2023, the European Union called on all member countries to make computer science a required subject. Without decisive action, the United States risks falling behind on the global stage.

A recent University of Maryland study underscores the importance for all schools to invest in computer science education. The research reveals that offering just one computer science course in high school can increase students' earnings by at least 8% by age 24. The benefits are even more pronounced for low-income students, Black students, and young women.

The Code.org Advocacy Coalition recommends 10 policies to help build capacity and sustainability for K–12 computer science. When states take action and pass policies, students have more opportunities to benefit from computer science. This report provides updated policy, access, and participation data alongside examples and stories to guide policymakers and advocates in ensuring all students learn computer science.

## Clarity

**1** Create a statewide plan for K–12 computer science

**2** Define computer science and establish standards for K–12 computer science

## Capacity

**3** Allocate funding for rigorous computer science teacher professional learning

**4** Implement clear certification pathways for computer science teachers at elementary and secondary levels

**5** Create programs at institutions of higher education to encourage all preservice teachers to gain exposure to computer science

## Leadership

**6** Establish dedicated computer science positions in a state education agency

## Sustainability

**7** Require that all schools offer computer science with appropriate implementation timelines

**8** Allow computer science to count toward a core graduation requirement

**9** Allow computer science to satisfy an admission requirement at higher education institutions

**10** Require that all students take computer science to earn a high school diploma

# WEST VIRGINIA

## Ten Policies to Make Computer Science Foundational

| | | | | |
|---|---|---|---|---|
| State Plan | Standards | Funding | Certification | Preservice |
| State CS Position | Require HS to Offer | Can Count | Admissions | Graduation Requirement |

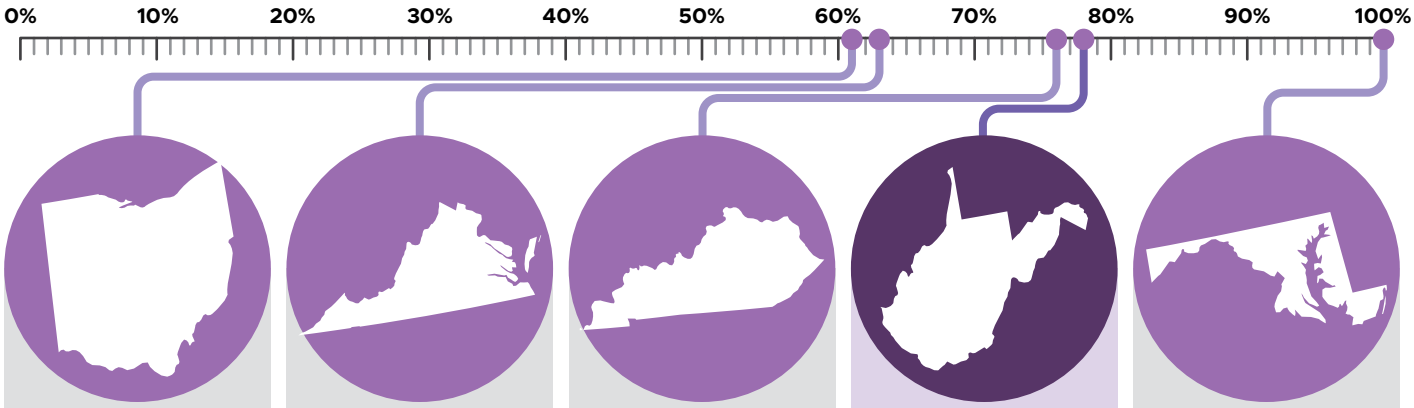
## Policy Implementation

This coming year, the West Virginia Department of Education is planning to work closely with institutions of higher education to support computer science teacher preparation.

We encourage West Virginia to consider passing a computer science graduation requirement to more fully expand equitable participation to the subject.

Although West Virginia qualifies as having funding on our rubric due to its historical funding, it did not allocate state funds for the subject in 2024. We encourage the Legislature to allocate funding in order to continue to support computer science capacity in small schools.

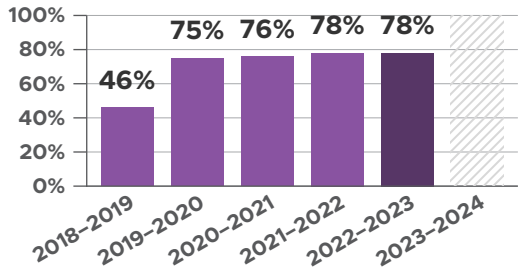
## Comparative Access to Computer Science Courses (% of HS offering)



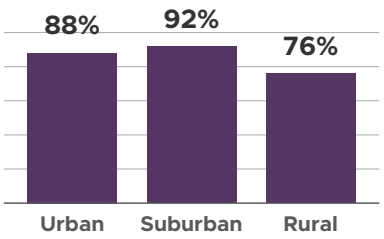

| Ohio | Virginia | Kentucky | West Virginia | Maryland |
|---|---|---|---|---|
| **61%** | **68%** | **76%** | **78%** | **100%** |
| ✓ State plan | ✗ State plan | ✓ State plan | ✓ State plan | ✓ State plan |
| ✓ Funding | ✓ Funding | ✓ Funding | ✗ Funding | ✓ Funding |
| ✗ CS required for graduation | ✗ CS required for graduation | ✗ CS required for graduation | ✗ CS required for graduation | – CS required for graduation |

## Percentage of Public High Schools Offering Foundational Computer Science

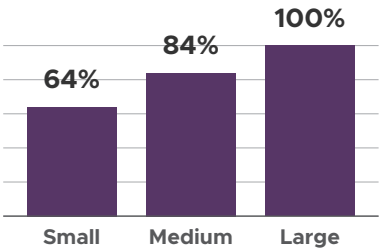
### Access by School Year




### Access by Geography*




### Access by School Size*

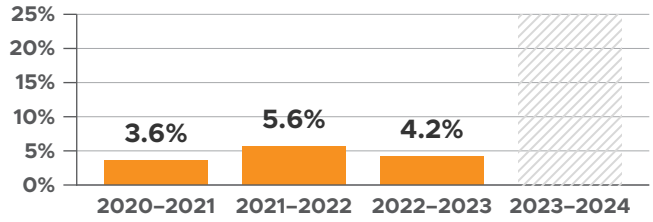



*Data is from the most recent data school year 2022–2023; Data on the number of schools in each category is available at [advocacy.code.org/report-data/](advocacy.code.org/report-data/)*

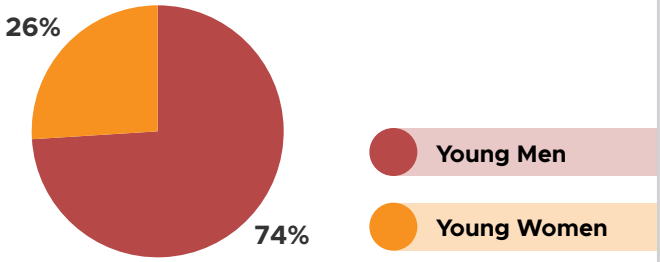
*We are working closely with the state to get updated data for next year*

## Participation in Foundational High School Computer Science*

### Participation by School Year




### Participation by Gender




### Student Groups That Reached or Neared Parity

Black students, Hispanic/Latino students, students with 504 plans

### Student Groups That Are Underrepresented

Young women, economically disadvantaged students, students with IEPs

*We lack enough data on Native American students and English language learners to determine representation.*

## Computer Science Prior to High School

### Elementary School Computer Science

The West Virginia Board of Education has required all elementary schools to integrate computer science since the 2022–23 school year.

### Middle School Computer Science

37%* of middle schools offer computer science with 21% of students enrolled.

**West Virginia reports data from nearly all middle schools.*

# States ranked by their percentage of offering