

# 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.

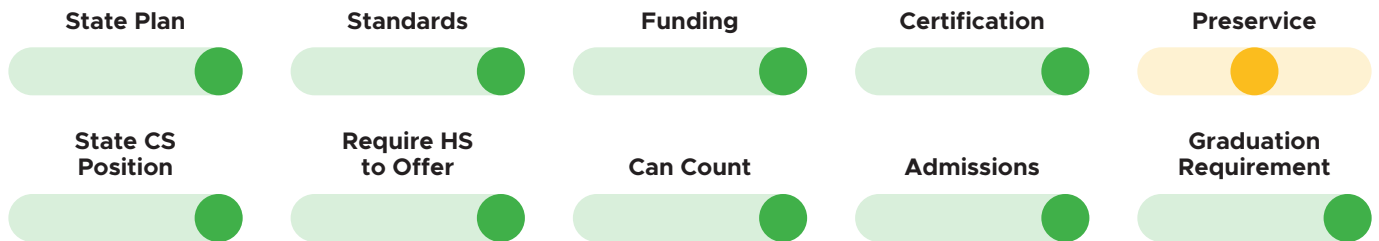
The Code.org Advocacy Coalition recommends 10 policies to help build capacity and sustainability for K–12 computer science. When states take action and pass policies, students have more opportunities to benefit from computer science. This report provides updated policy, access, and participation data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

Clarity		Capacity		
<b>1</b> Create a statewide plan for K–12 computer science	<b>2</b> Define computer science and establish standards for K–12 computer science	<b>3</b> Allocate funding for rigorous computer science teacher professional learning	<b>4</b> Implement clear certification pathways for computer science teachers at elementary and secondary levels	<b>5</b> Create programs at institutions of higher education to encourage all preservice teachers to gain exposure to computer science
Leadership	Sustainability			
<b>6</b> Establish dedicated computer science positions in a state education agency	<b>7</b> Require that all schools offer computer science with appropriate implementation timelines	<b>8</b> Allow computer science to count toward a core graduation requirement	<b>9</b> Allow computer science to satisfy an admission requirement at higher education institutions	<b>10</b> Require that all students take computer science to earn a high school diploma

# ALABAMA



## Ten Policies to Make Computer Science Foundational

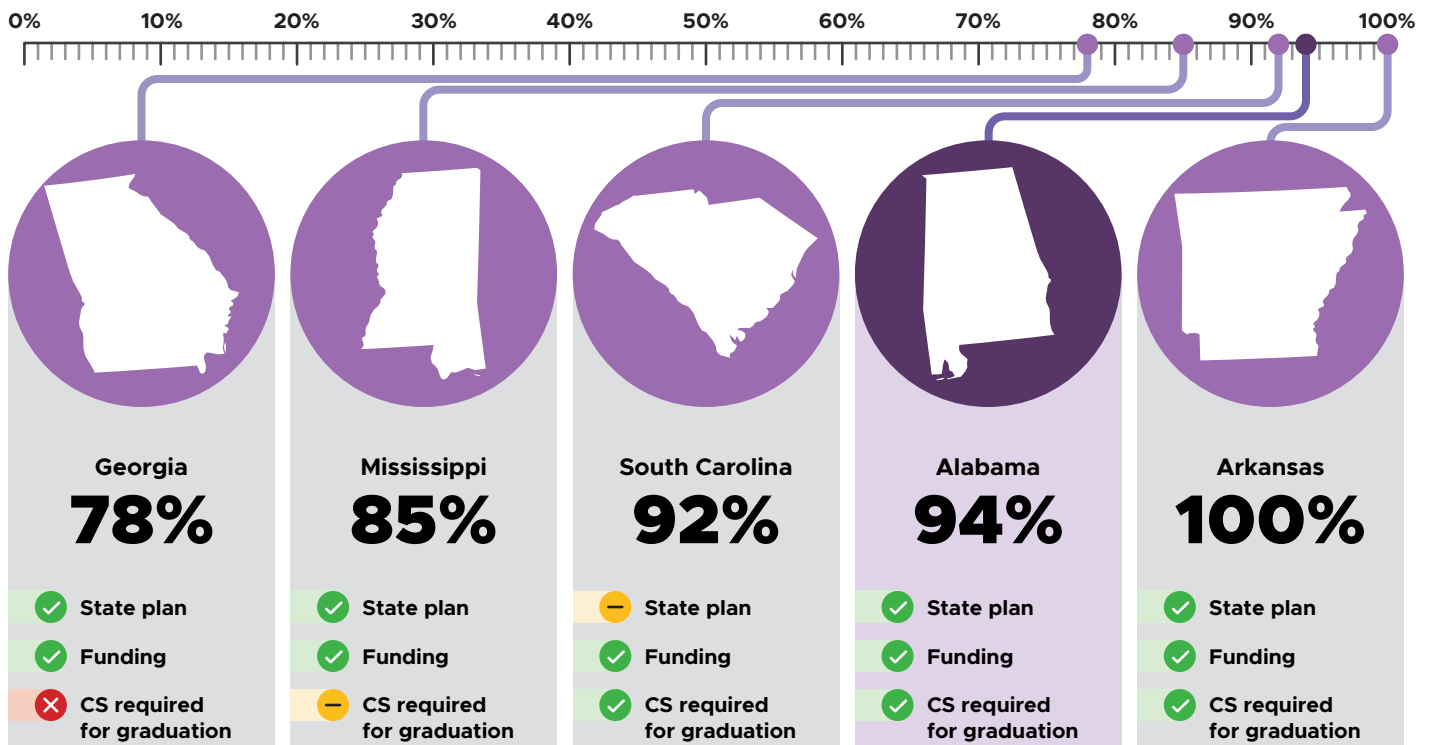


## Policy Implementation

The Alabama Legislature continued to fund computer science professional development, appropriating \$9.27M to the State Department of Education in 2024. Over the last nine years, the state has invested over \$37M in computer science education.

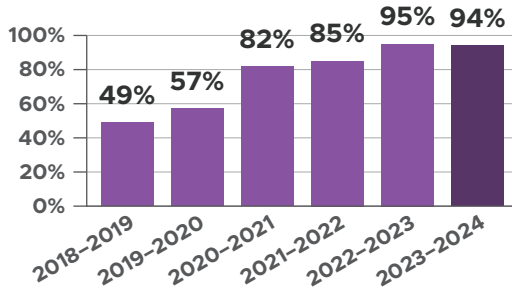
The Alabama State Board of Education adopted a measure requiring all high school students to take computer science to graduate starting with the class of 2032.

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

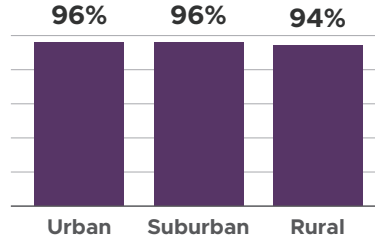


## Percentage of Public High Schools Offering Foundational Computer Science

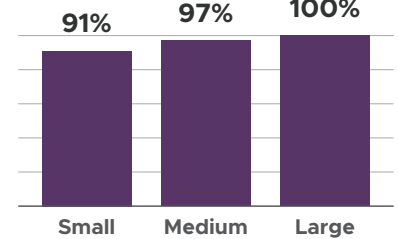
Access by School Year



Access by Geography\*



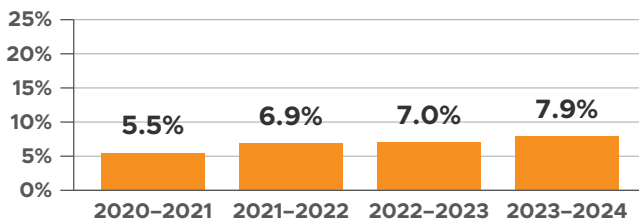
Access by School Size\*



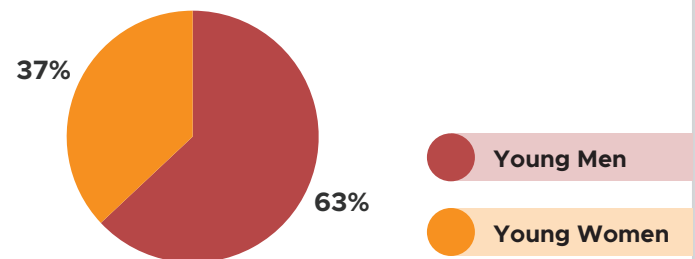
\*Data is from the most recent data school year 2023-2024

## 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, and economically disadvantaged students

### Student Groups That Are Underrepresented

Young women, students with IEPs, and English language learners

*We lack enough data on Native American students and students with 504 plans to determine representation.*

## Computer Science Prior to High School

### Elementary School Computer Science

All elementary students are required to have computer science instruction during the school year.

### Middle School Computer Science

92%\* of middle schools offer foundational computer science with 13% of students enrolled.

\*This percentage is based on data received from 98% of middle schools in the state, therefore the actual number of schools teaching may be higher.

# States ranked by their percentage of offering

