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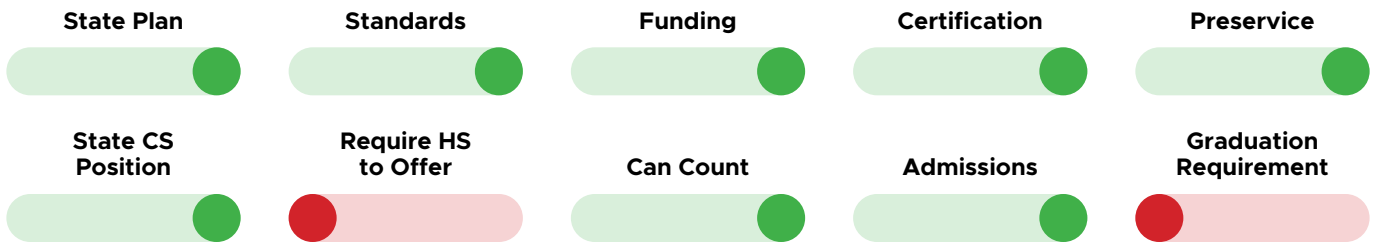
A recent University of Maryland study underscores the importance for all schools to invest in computer science education. The research reveals that offering just one computer science course in high school can increase students' earnings by at least 8% by age 24. The benefits are even more pronounced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

OHIO

Ten Policies to Make Computer Science Foundational

State Plan	Standards	Funding	Certification	Preservice
🟢	🟢	🟢	🟢	🟢

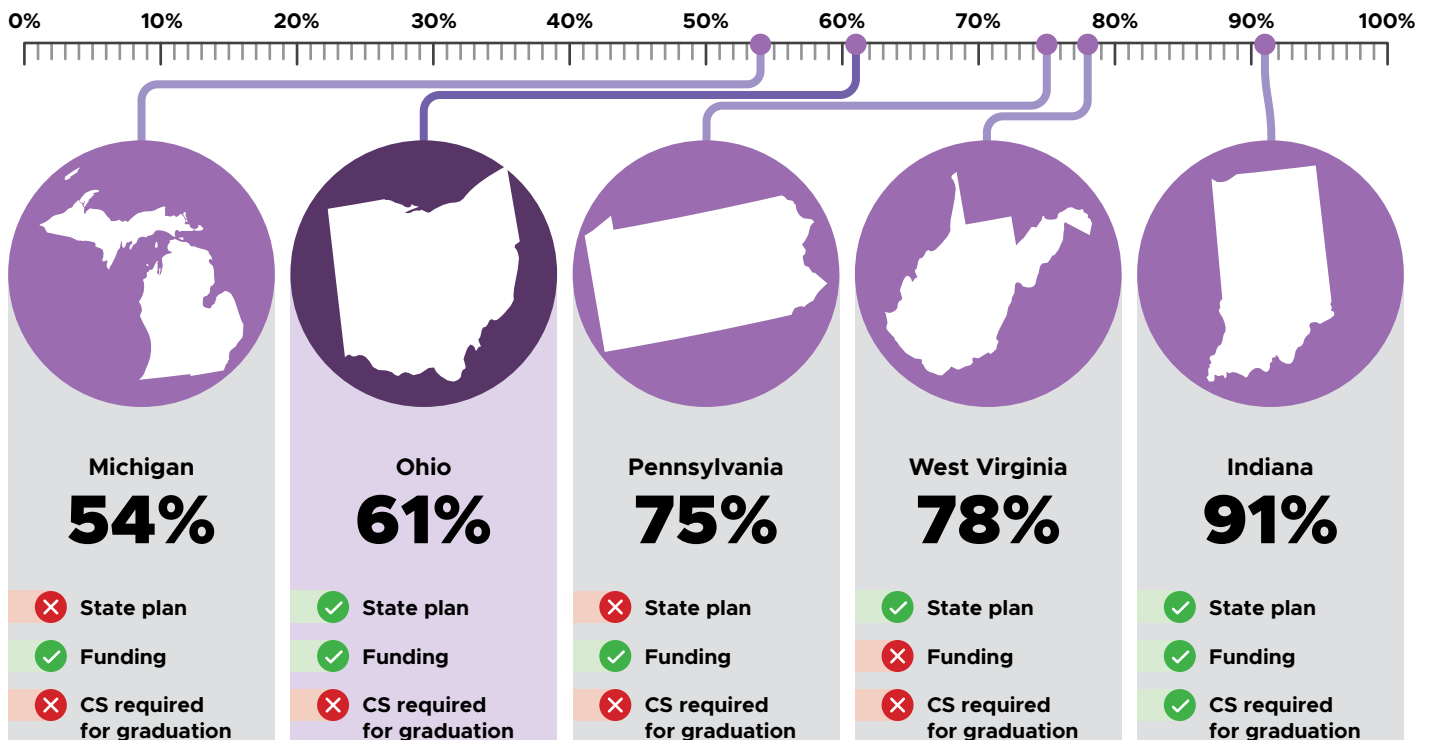| State CS Position	Require HS to Offer	Can Count	Admissions	Graduation Requirement
🟢	🔴	🟢	🟢	🔴

Policy Implementation

Ohio disbursed funding for computer science under the TeachCS Grant Program, allocating $8M to 17 colleges, universities, and Educational Service Centers to provide educators with funding for computer science endorsements, licenses, or continuing education. At least 1,100 educators are estimated to be impacted, with 650 of those newly qualified to teach computer science.
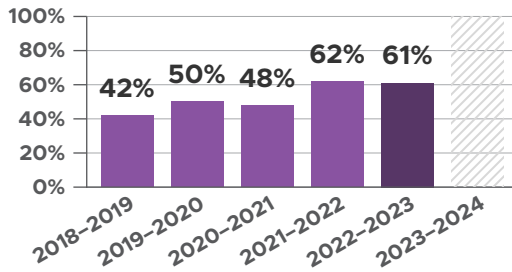
We encourage Ohio to consider passing a computer science graduation requirement to fully expand equitable participation in the subject.

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

0%   10%   20%   30%   40%   50%   60%   70%   80%   90%   100%

Michigan
54%
- ❌ State plan
- ✅ Funding
- ❌ CS required for graduation

Ohio
61%
- ✅ State plan
- ✅ Funding
- ❌ CS required for graduation

Pennsylvania
75%
- ❌ State plan
- ✅ Funding
- ❌ CS required for graduation

West Virginia
78%
- ✅ State plan
- ❌ Funding
- ❌ CS required for graduation

Indiana
91%
- ✅ State plan
- ✅ Funding
- ✅ CS required for graduation

Percentage of Public High Schools Offering Foundational Computer Science

Access by School Year

2018–2019	42%
2019–2020	50%
2020–2021	48%
2021–2022	62%
2022–2023	61%
2023–2024	

Access by Geography*

Urban	Suburban	Rural
62%	70%	56%

Access by School Size*

| Small	Medium	Large
47%	82%	98%
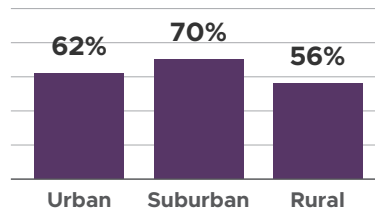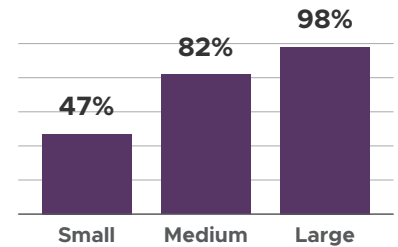
*Data is from the most recent data school year 2022–2023; Data on the number of schools in each category is available at **advocacy.code.org/report-data/**

Participation in Foundational High School Computer Science*

Participation by School Year

Ohio does collect enrollment data for all foundational computer science courses; however it is not in a format that we are able to use for this report. We are working with the state to disaggregate the data. For this year, we used AP exam data from the College Board for participation statistics.

Participation by Gender in AP Exams

- **Young Men** — 73%
- **Young Women** — 26%
- **Non-binary** — 1%
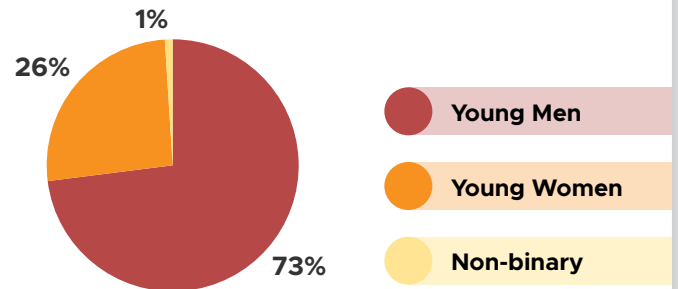
Student Groups That Reached or Neared Parity in AP Exams

We do not have data that indicates there are student groups that have reached parity.

Student Groups That Are Underrepresented in AP Exams

Young women, Black students, Hispanic/Latino students

We lack enough data on Native American students, students with disabilities, English language learners, and economically disadvantaged students to determine representation.

*Detailed data on student participation is available at **advocacy.code.org**

Computer Science Prior to High School

The Ohio STEM Learning Network has developed a K–5 Computer Science Cohort program for teachers across Ohio. The cohort focuses on how to integrate computer science into their classroom.

The TeachCS program, which funded computer science teacher certification and licensure in 2024, also allows teachers to earn a supplemental license based on their existing grade level certification, this will help more elementary and middle school teachers to become certified to teach computer science.

States ranked by their percentage of offering

60% — National Percentage Offering

State	Percentage
AR	100%
MD	100%
NV	96%
NH	95%
AL	94%
SC	92%
IN	91%
NJ	86%
MS	85%
IA	84%
CT	84%
MA	83%
RI	83%
UT	81%
WV	78%
GA	78%
KY	76%
PA	75%
WY	74%
VT	72%
HI	72%
NC	69%
VA	68%
OK	64%
ME	63%
DE	61%
OH	61%
TN	61%
OR	60%
IL	60%
CO	59%
MO	58%
TX	56%
MI	54%
NM	54%
DC	53%
NY	52%
WI	52%
NE	52%
CA	52%
SD	51%
AK	51%
WA	50%
ND	47%
ID	46%
AZ	43%
LA	39%
FL	38%
MN	36%
KS	35%
MT	31%