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2023 State of Computer Science Education

The rapid pace of technological advancement, as seen with the widespread integration of generative artificial intelligence (AI), underscores the need for foundational knowledge in computer science for all students. This report calls upon advocates to embrace the urgency of this matter and revamp school curricula to align with the demands of the 21st century, including requiring that all students learn computer science.

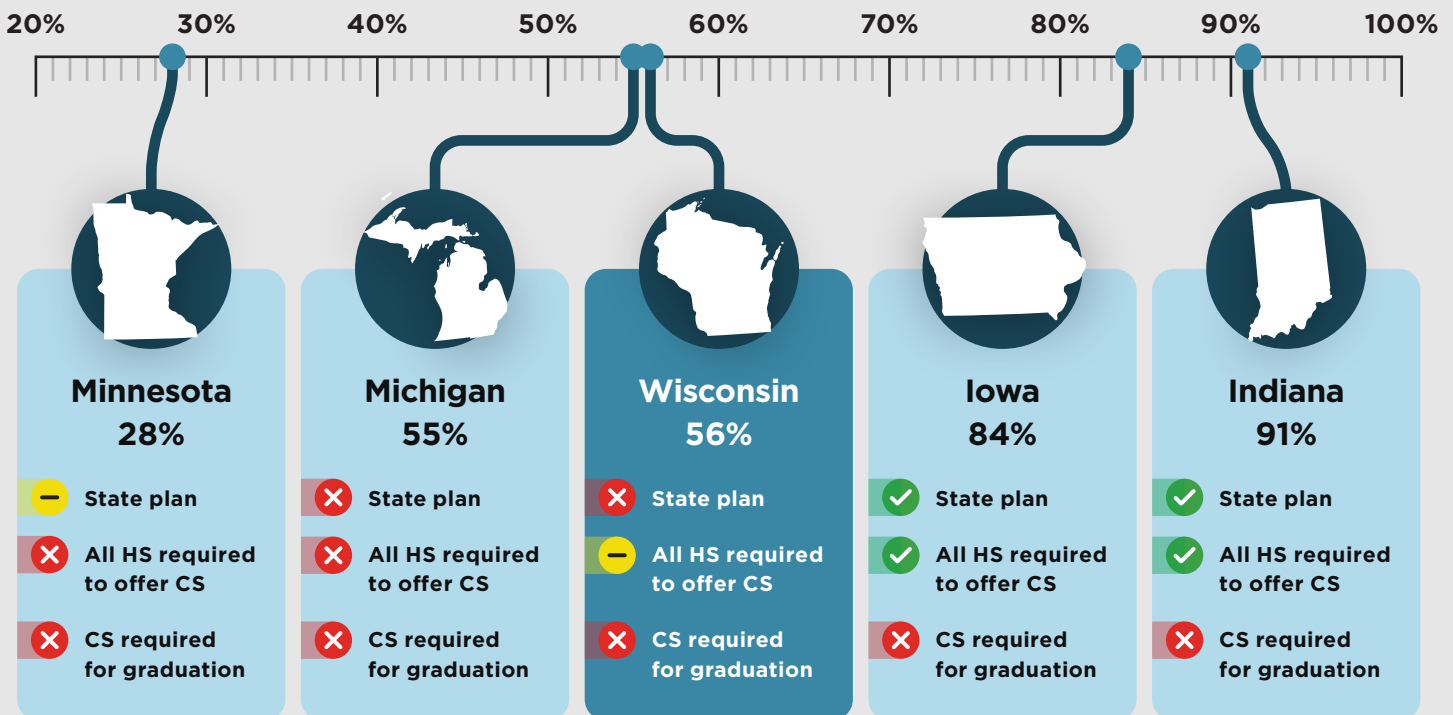
Currently, 57.5% of public high schools in the United States (U.S.) offer a foundational computer science class—an achievement marking the largest percentage growth in the last five years. Across the 35 states* where data is available, 5.8% of high school students are enrolled in foundational computer science. Even with growing access this growth, large disparities still exist, and we must continue to focus on eliminating participation gaps.

6,293
In 2023, WI averaged 6,293 open computing jobs each month

\$92,791
These jobs have an average salary of \$92,791

*AL, AR, AZ, CT, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MA, MD, MS, NC, ND, NE, NJ, NM, NV, NY, OK, OR, PA, RI, TN, TX, UT, VA, VT, WV, WI

Comparative Access to Computer Science Courses (percentage of high schools offering)





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Ten Policies to Make Computer Science Foundational

1.

Create a **statewide plan** for K-12 computer science



2.

Define computer science and establish standards for K-12 computer science



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 university programs to **encourage all preservice teachers** to gain exposure to computer science



6.

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



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



What Has Wisconsin Done to Advance Computer Science Education?

The Wisconsin Department of Public Instruction hired a Computer Science and Digital Learning Innovation Consultant in 2022.

Although Wisconsin does not yet require that all secondary schools offer computer science, state statute requires each school board to provide an instructional program designed to give students knowledge in computer science.

How Can Wisconsin Increase Opportunities for Students?

Wisconsin should fund professional development opportunities for teachers to ensure there are enough teachers prepared to teach computer science in every school.

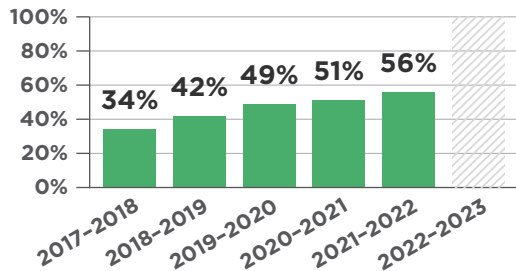
Wisconsin should create a state plan to establish strategies and goals for computer science education statewide.



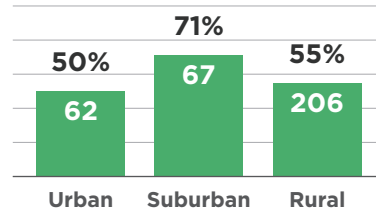
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Percentage of Public High Schools Offering Foundational Computer Science

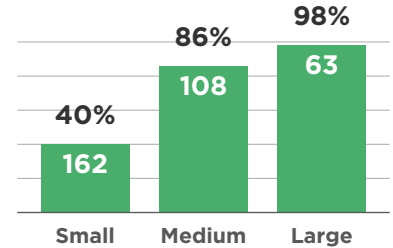
Access by School Year*



Access by Geography**



Access by School Size**



*Previously reported numbers were inaccurate and we have worked closely with the state with this to correct the data.

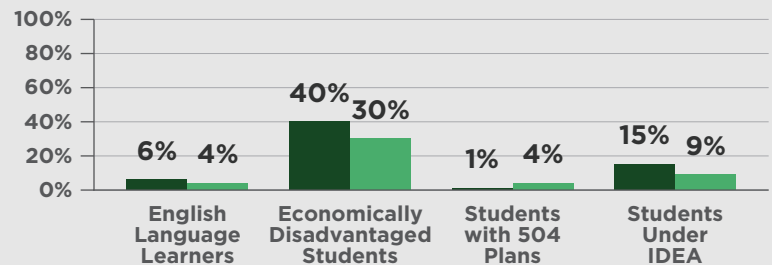
**Data is from the most recent data school year 2022-2023

Participation in Foundational High School Computer Science by Student Demographics

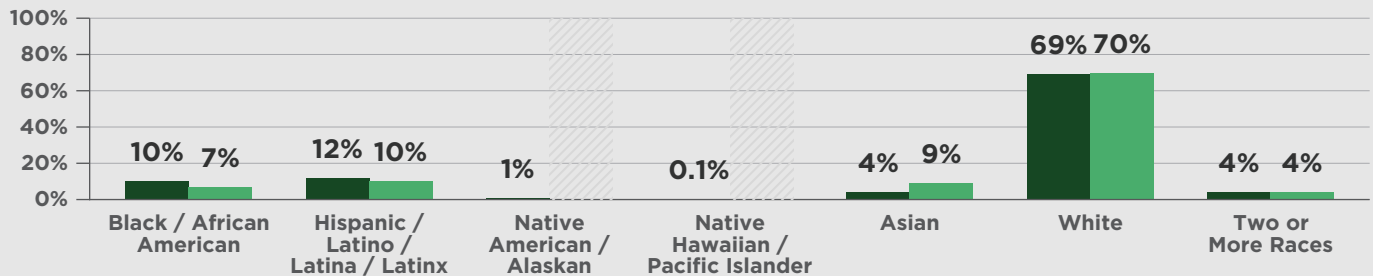
3.3% of high school students took foundational computer science in 2021-2022

21% of students who took foundational computer science were female

Enrollment by Subgroup



Enrollment by Race / Ethnicity



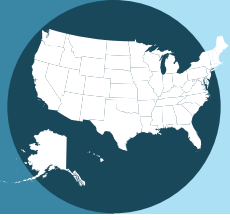
Hispanic students are 1.3 times less likely to take foundational computer science than their white and Asian peers.

- Student Demographics 9-12
- Participation in Foundational Courses

K-12 Access and Participation in Computer Science

37% of middle schools*** are teaching foundational computer science education, with an enrollment of 4,662 students.

***57% of middle schools reported course offerings and among those schools 37% reported teaching foundational computer science



UNITED STATES

Percentage of Public High Schools Offering Foundational Computer Science Nationally

