K12 COMPUTER SCIENCE
FRAMEWORK

Computer Science: Essential Knowledge for All Students

Computer science is a foundational subject for students' education and their future careers and interests. The purpose of the K–12 Computer Science Framework is to define what *every* student should learn in computer science to prepare them for the emerging demands of the 21st century—not just to major in computer science or secure jobs as software engineers. For example, computer science requires the development of strong computational thinking skills, which can be applied beyond the fields of science, technology, engineering, and mathematics (STEM) to the arts and humanities. Learn more at k12cs.org.

Computer science empowers individuals to create technologies with broad influence, yet those who create them are often not representative of our society. Women, underrepresented minorities, and people with disabilities bring important perspectives that drive computing innovation. The framework offers a comprehensive vision and guidance that can help states provide all students access to this critical opportunity.

A Framework for K–12 Computer Science

The K–12 Computer Science Framework provides high-level, conceptual guidance for the computer science skills and knowledge students need to build across elementary, middle, and high school. The Association for Computing Machinery, Code.org, Computer Science Teachers Association, Cyber Innovation Center, and National Math and Science Initiative collaborated with more than 50 writers and advisors within the computer science and education community (K–12 teachers, higher education faculty, and researchers), fourteen states (Arkansas, California, Georgia, Idaho, Indiana, Iowa, Maryland, Massachusetts, Nebraska, Nevada, New Jersey, North Carolina, Utah, and Washington), school districts, technology companies, and other organizations to describe the computer science concepts and practices that are essential to the educational success of all students.

How Can the Framework Help School Systems?

Most states do not have comprehensive K–12 computer science standards or curriculum, nor do most states provide necessary professional development. The K–12 Computer Science Framework can facilitate efforts to expand statewide access to computer science by providing an organizing structure for states to create their own standards, informing the development of K–12 curriculum pathways, and developing appropriate supports for teachers (preparation, certification, and professional development).