

Understanding the Tennessee Computer Science Requirement



Housekeeping Items

REC ●

Webinar is recorded



Slides available along with the recording



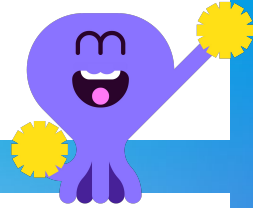
Enter your questions in the Q&A box

Watching On Demand, and have questions?

UPCOMING WEBINARS

Join us for our future webinars

www.kira-learning.com/events



November 28, 4 PM CT


Empowering Tennessee Educators - How to Use Kira Learning's Platform for CS Instruction

December 5, 4 PM CT

Preparing for and teaching the Kira Learning Middle School Course

December 12, 4 PM CT

Preparing for and teaching the Kira Learning High School Course

A decorative graphic in the top-left corner consisting of a network of interconnected nodes and lines. The nodes are represented by circles of varying sizes and colors, including light gray, dark gray, and blue. Some nodes are highlighted with a blue outline. The lines connecting them are thin and light gray.

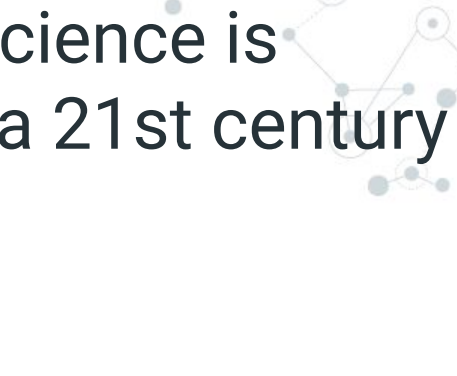
Welcome TN Teachers and Leaders!

November 21, 2023



Goals for Our Time Together

- ① Overview State Level Computer Science Requirements
- ① Look at District, School and Classroom Resources available at no cost
- ① Preview Future Meeting Topics to Learn More

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- ① Tennessee believes computer science is foundational, not vocational, to a 21st century student and future worker.
 - ① Access to the content and skills included in computer science and computational thinking are essential to function in the global society in which all students will live.

DISCOVER WHY COMPUTER SCIENCE EDUCATION IS FOUNDATIONAL TO THE SUCCESS OF OUR STUDENTS AND STATE.



**STUDENT ACCESS TO
COMPUTER SCIENCE**



ECONOMY



SKILL BUILDING



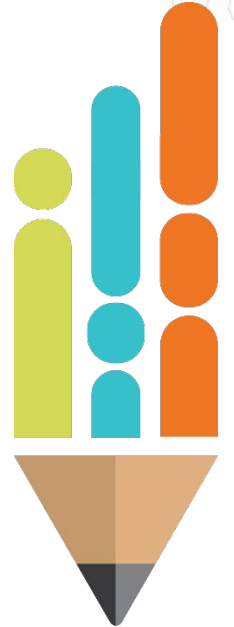
**FUTURE OF
TENNESSEE**

- Tennessee has a strong and growing industry sector of Headquarters, Finance & Tech (<https://tnecd.com/industries/hq-finance-tech/>) that frequently employ information technology occupations. Tennessee also has unique research and development (R&D) assets and facilities, like St. Jude Children's Research Hospital, Vanderbilt University, Oak Ridge National Laboratory (ORNL), U.S. Air Force Arnold Engineering Development Complex, and the University of Tennessee, that provide worldchanging technologies to businesses. These assets and facilities also frequently employ information technology occupations. This clustering of industry, R&D, and education drives the need for a skilled computer science workforce in our state.
- To confirm our status as a leader in technology and create an inclusive economy that works for all Tennesseans, we must lead a long-term, strategic approach to provide computational skills to all students, thus ensuring sustainable industry and ingredients for a high quality of life for current and future residents.

Computer Science Legislation

Chapter 979 of Public Acts of spring 2022

- K-12 Computer Science Courses and Standards
- Graduation Requirements
- Teacher Endorsement
- Professional Development



CS Standards

- New K-12 pipeline of standards
- Created by TN teacher committees
- Based on CSTA and ISTE national models
- [Approved October 2022](#)
 - 6 core concepts consistent K-12
 - Grade level K-5
 - Grade banded 6 - 8
 - Banded 9 - 12 but allow for deeper within advanced and specialized courses

Course and Graduation Requirement

- K-5 CS and CT integrated at natural intersections in content instruction
- 6 - 8: receive equivalent of 1 grading period direct instruction in CS (G25X40 TN course code)
- 9-12: receive at least one credit of Computer Science ([can be met by any one of 14 courses](#))

Courses at no cost

- Kira Learning selected to be developer of middle and high school courses
- Not the only option, but only free option provided by TN department of education
- Learn more about courses and register for future webinars [here](#)

Teacher Endorsement

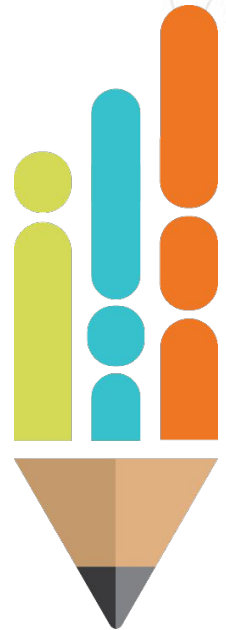
- CS173, K-12 endorsement
- Traditional pathways still available - initial endorsement, add-on via TN Tech online graduate courses
- No-cost option
 - Online via Kira Learning
 - Takes about 1 semester to complete (roughly 60-80 hours)
 - Most successful have prior CS experience
 - Get CS training via TSIN offerings (Code.org), Code completers get partial credit toward pathway

Professional Development

- TSIN CS Accelerator Week, July 8-12, 2024
 - Code.org, K-12 options
 - Kira, 6-12 options
- District Reach Them All delivery
- Informal
 - [CS Momentum Expedition](#)
 - CSTA-Tennessee

The “Reach Them All” program is designed to:

- Develop communities of practice within every district through the train-the-trainer model of professional learning.
- Enhance capacities to promote integration of computer science into every classroom in the state.
- Prepare districts to understand new computer science legislation and expectations and adapt practices moving forward.
- Create a network with at least one point of contact in every district to disseminate ongoing information and best practices in regards to computer science.



We've been getting ready

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Join us!

CS Efforts in Tennessee

2022 - 2023

 K-12 State Standards for Computer Science

 Free K-12 Add-on CS Endorsement Pathway

 Reach Them All - Trained 500+ Representatives in K-12 CS/CT Integration

 Professional Learning (Code.org, Apple Swift)

 Computer Science Innovative Leaders Institute

 Defined Learning K-12 Computer Science Career-Focused PBL Curriculum

 K-12 Computer Science Design Challenge

 Computer Science Momentum Expedition Tradeshow Event

 Middle School Computer Science Course (accessible Jan. 2024)

 High School Computer Science Graduation Requirement Course (accessible Sept. 2023)

 Computer Science Advisory Board Served 1-Year Term



www.computersciencetn.org



Navigating Computer Science Teaching in Tennessee



HOW DO I PREPARE MY SCHOOL?

1. Get teachers endorsed to teach computer science (CS173)

Teachers have 2 options to obtain add-on endorsements in CS:

- **Kira CSEP** (free)
- **TN Tech University** (tuition costs apply)

Kira CSEP is a self-paced, online course that leads to endorsement.

For additional support, teachers are encouraged to join cohort-based learning groups such as the TSIN-hosted Code.org yearlong CS cohort. Learning modules provided through the cohort are not eligible for CEU credit.

2. Support teachers in their CS teaching and learning journeys

Teachers must teach from a CS course approved by the state of TN to fulfill the requirement. Teachers have a few options to choose from, with varying degrees of out-of-the-box support and alignment.

Kira Learning provides free **high school and middle school courses** approved by the TN DoE. It provides teachers with complete course curricula and support. You can find the complete list of the TN DoE approved computer science courses [here](#) (page 2).

Other sources such as [Code.org](#) can provide supplemental lessons and activities.

Can I teach CS without a CS endorsement?

Like with all other subjects, teachers may teach a single course outside of their certifications as part of TN's licensure and staffing agreements.

Not [all courses](#) that meet the computer science graduation requirement require the TN CS endorsement (CS173). Teachers and principals should confer with a district human resource staff member specializing in licensure to determine if they can teach approved courses with other endorsements.

For example, CS173 is one of 8 eligible endorsements that are eligible to each the Kira courses.

CS TEACHING RESOURCES

Courses (with TN course catalog course name and numbers)

HIGH SCHOOL

- Computer Science - High school (G10H06 - recommended to use the Kira course)
- AP Computer Science Principles (G10H07 or G02H44)
- AP Computer Science A (G02H93 or G02H45)
- Computer Science Foundations (C10H11)
- Coding I (C10H14)
- Coding II (C10H15)
- Coding Practicum (C10H08)
- Cybersecurity I (C10H19)
- Cybersecurity II (C10H20)
- Cybersecurity Practicum (C10H21 or C10H41)
- Mobile App Development (C10H22)
- International Baccalaureate Computer Science Program(G02H16)
- Cambridge International Computer Science Program (C10H25)
- Dual Enrollment Computer Science Program (C10H24, C10H31, C10H34, C10H35)

MIDDLE SCHOOL

- Computer Science (G25X40 or G25X41 - recommended to use Kira course)

Supplemental resources

- [Code.org](#) - guided modules and lessons searchable by topic, Hour of Code activities
- [TSIN compiled resources](#) - supports and links to Reach Them All lessons used, short courses (30 minutes each) on TN's CS standards topics
- [CS Integration Guidebook](#) - download the whole resource provided in Reach Them All training
- [TN models](#) - lesson plans and videos of instruction in TN classrooms created to support TN's CS standards in other content area integration
- [CodeCombat/Ozaria](#) - the department of education does not endorse curricula, however, this one has been vetted and a TN-CS Standards Alignment resource is available upon request from this site. A gamified way to address many CS, ELA and math standards.
- [Defined Learning CS PBLs](#) - TN department of education has paid for all TN K12 teachers and students to have access to this bank of high quality PBL lessons aligned to various TN content and CS standards. Searchable by grade and content topic

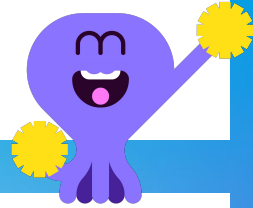
Communities & Events

- [CSTA-Tennessee](#) - membership is free and under the umbrella of [CSTA](#) - the largest “CS department in the world!”. Must join CSTA (free) to find TN’s chapter and join (also free currently) - the TN chapter is just getting off the ground so look for some meetups regionally around the state in person and online throughout the year.
- [TSIN Summer CS Accelerator](#) - week of July 8 - 12, 2024: Offering both in person and virtual opportunities to join cohorts and communities of practice to deepen content knowledge in CS, increase efficacy in teaching CS and meeting others to support you throughout the year as you teach CS either as direct course instruction or integrated into another content class in TN.

Accelerator week will provide training in/by: Code.org-aligned Discoveries, AP CS Principles and AP CS A, TSIN’s K-5 CS Academy (including Code.org Fundamentals and TN CS standards integration training), Kira course experiences for middle and high school teachers, and counselor & administrator-specific overviews of CS and its place in any school culture.

OUR RECOMMENDATIONS

We recommend all teachers to join [CSTA-TN](#) or sign up for **TSIN's [newsletter](#)** for updates and upcoming opportunities!



For the **new CS teacher**

- K-5 → TSIN's K-5 academy
- 6-12 → TSIN's CS Accelerator week
- For CS173 endorsement → Kira CSEP

For the **experienced CS teacher**

We could use your expertise! Reach out to your district delegate or ambassador within your grade band for Reach Them All to volunteer to mentor or conduct training sessions with colleagues.

QUESTIONS?

Visit www.kira-learning.com or www.computersciencetn.org



**For questions about the Kira platform
or courses:**

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For all other questions:

ashe@battelle.org