TEALS Program

Building equitable, inclusive computer science programs in high schools

Microsoft

Equip all students with future-ready skills through CS education

High school students who have access to inclusive and equitable computer science (CS) gain entry to a pathway to economic opportunity that is currently out of reach for many students.

Partner with the TEALS Program

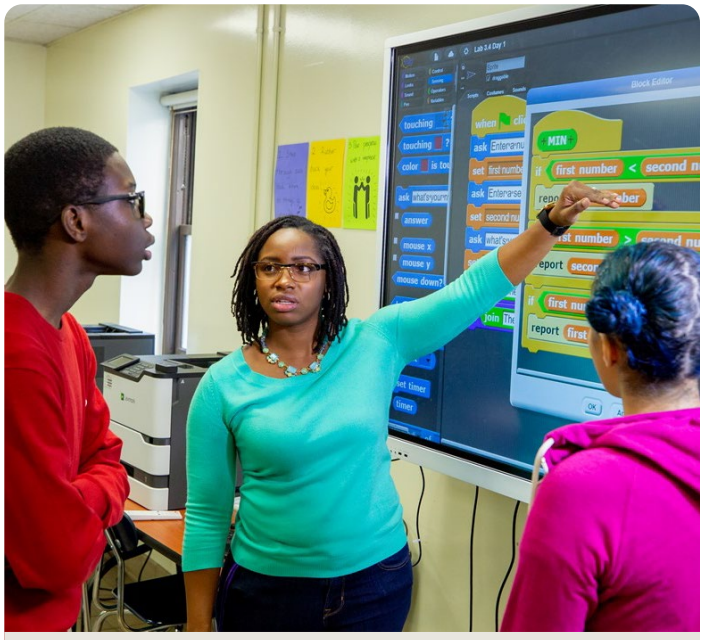
TEALS (Technology Education and Learning Support) is a Microsoft Philanthropies program that builds sustainable computer science programs in high schools, with a focus on serving students excluded from learning CS because of race, gender, or geography.

The TEALS Program:

- ✓ Helps classroom teachers learn to teach computer science on their own by pairing them with industry volunteers and proven curricula
- ✓ Engages students who previously didn't have access to CS education, increasing the likelihood that they'll continue their CS education and be more prepared for future employment

TEALS provides

- Remote or in-person access to volunteers with industry experience and deep knowledge of CS
- A supportive community that allows teachers to build their subject matter knowledge
- Rigorous curricula and resources approved by CS educators and industry professionals
- Resources and training to develop diverse and inclusive CS classrooms



Brooklyn College Academy, Brooklyn NY

Learn more about bringing the TEALS Program to your school at

Microsoft.com/TEALS

100,000

Since 2009, over 100,000 high school students have received CS education through the TEALS Program

Impact on students

95%

of TEALS students said their skills improved or improved a lot.

78%

of TEALS students believe CS allows them to be creative.

Impact on teachers

90%

of TEALS teachers said volunteers helped with their concerns.

94%

of TEALS teachers said their teaching team met or exceeded expectations.

***2022-23 TEALS student and teacher end of year survey**

McDonogh 35 College Preparatory, New Orleans, LA

"The power of education, especially computer science, is giving students the ability to change the world."

– Kirk Thomas,
McDonogh 35, TEALS teacher

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How TEALS supports your school

	Co-Teach model	Lab support model	Graduation
Who's doing the instruction?	Teacher: 10 → 80% Volunteer: 90 → 20%	Teacher: 80 → 99% Volunteer: 20 → 1%	Teacher: 100%
Teacher's role	• Classroom and teaching team management • Learning computer science • Completing all assignments • Leading lessons at their capacity	• Classroom and teaching team management • Leading 80%+ of lessons • Continue refining CS understanding	• Teaching computer science independently of TEALS
Volunteer team engagement	4-5 days a week	2-5 days a week	Schools teach CS on their own

Remote instruction

TEALS offers options for remote or in-person volunteer support. Using remote instruction, TEALS volunteers participate using video conferencing software that is chosen by the school. Remote is a great choice for communities with limited local technology professionals.

Smithville High School, Smithville TX

What your school needs to teach remote:

- Sufficient bandwidth, headsets, and webcams to connect students with volunteers
- TEALS training for teachers and their teaching teams to prepare for remote instruction
- An assigned school staff member to support IT needs (initial installation and ongoing support)

> I tell my students, 'I'm not an expert. I'm learning computer science with you!' My TEALS class is one big collaboration – and it's fun."
>
> **– Elaine May,**
> Warwick, RI, TEALS teacher

Making CS diverse, equitable, and inclusive

TEALS collaborates with partner schools to build sustainable, diverse, and equitable computer science education pathways.

TEALS school partners create an action plan and make progress towards achieving commitments in the following:

Drexel Prep, New Orleans, LA

Diversity in Enrollment	Inclusive Learning Space	Inclusive Instruction
Ensuring CS courses and programs have student enrollment that reflects the demographics of the school or community population, particularly in terms of race, ethnicity, gender, and disability status	Creating learning environments that are accessible and welcoming of students' identities, backgrounds, differences, and perspectives without barriers or judgment	Instructional practices and learning experiences that actively take into account the context of youth in terms of interests, identities, cultural and linguistic practices, and histories

School Commitments

• Enlist students to promote CS • Include counselors in your efforts • Introduce students to diverse CS role models • Create awareness of CS across your school and community • Engage parents/guardians and feeder schools about the importance of CS	• Eliminate exclusion signals • Incorporate inclusive signals • Design learning spaces that are accessible to students with diverse abilities • Incorporate student voice in the learning environment	• Provide options for comprehension • Provide options for expression and communication • Provide multiple means for engagement • Confront and dispel stereotypes and biases • Empower students to have authentic leadership in classroom instruction

Examples of Actions

• Ask counselors to actively promote CS class(es) during course selection to all students	• Consistently incorporate student input in your classroom's physical space and culture	• Provide lesson plans that include opportunities for groupwork as well as multiple project options

TEALS supported courses

The Microsoft TEALS (Technology Education and Learning Support) Program supports five course types. Each course type is listed below along with a brief description and links to TEALS supported curriculum providers' websites. Schools must sign up with the curriculum provider directly for access to curricula materials and teacher professional development workshops. Teachers are expected to attend curriculum training offered by the curriculum provider.

Introduction to Computer Science

A semester or full-year course that explores a variety of basic computational thinking and programming concepts through a project-based learning environment. Foundational knowledge needed for this course is algebra readiness.

Models supported

- Co-Teach
- Lab Support

Curriculum provider

- Carnegie Mellon University: CS1: Introduction to Programming with Python
- Carnegie Mellon University: Interdisciplinary Programming*
- Code.org: CS Discoveries (*Lab Support only*)
- CodeHS: Intro to CS Python 3*
- HelloWorldCS: Java Fundamentals*
- HelloWorldCS: Virtual Reality*
- Microsoft MakeCode*
- *New* Prodigy Learning: Coding in Minecraft*: Prepares students for Coding in Minecraft credential
- Quorum: Core Track*
- We TeachCS*

AP Computer Science Principles

A full-year course covering the fundamentals of computing including creativity, programming, and global impact. The College Board's AP CS Principles is a complement to AP CS A. Foundational knowledge needed for this course is first year algebra.

Models supported

- Lab Support

Curriculum provider

- Code.org
- Beauty & Joy of Computing
- Project Lead the Way
- Carnegie Mellon University: CS Academy CSP*
- HelloWorldCS*
- Microsoft MakeCode*
- Quorum*
- CodeHS: Python*
- CodeHS: Cybersecurity*

Advanced Placement exam format

A performance project that students complete in class and multiple-choice assessment.

* This curriculum is currently in pilot for TEALS support. If you have any questions, please contact your local TEALS representative: aka.ms/TEALSContact.

Curriculum Pathways Overview

TEALS Program supported curricula

AP Computer Science A

A full-year course focused on object-oriented programming and problem solving in the Java programming language. Foundational knowledge needed for this course is first year algebra.

Models supported

- Co-Teach
- Lab Support

Curriculum provider

- Code.org
- CS Awesome
- CodeHS
- Project Lead The Way*
- HelloWorldCS*

Advanced Placement exam format

Free response and multiple-choice assessment.

Cybersecurity

A full-year course that explores the fundamental concepts or applied skills of cybersecurity and may involve project-based labs in a secure environment or virtual range.

Models supported

- Co-Teach
- Lab Support

Curriculum provider

- CodeHS: Fundamentals of Cybersecurity
- Cyber.org: IT Fundamentals*: Prepares students for the CompTIA IT Fundamentals exam
- Cyber.org: Intro to Cybersecurity*
- Cyber.org: Cybersecurity*: Prepares students for the CompTIA Sec+ exam.

Data Science, Machine Learning and Artificial Intelligence

A full-year course that explores the fundamental concepts or applied skills of data science, machine learning, or artificial intelligence. Foundational knowledge needed for this course is foundational computer science concepts.

Models supported

- Co-Teach
- Lab Support

Curriculum provider

- CodeHS: Introduction to Artificial Intelligence*
- CodeHS: Introduction to Data Science*
- HelloWorldCS: Data Science & Artificial Intelligence*

Additional AI resources

Check out these curated resources to help you understand how to leverage AI in your classroom.

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Partnership requirements

Potential school costs	• Costs incurred by volunteers (e.g., background check) • Curricular resources (if using a partner curriculum provider that charges a cost) • Remote teaching equipment (as applicable)
Class meeting time	• Beginning of the day (timing is more flexible for remote partners)
Diversity, Equity, and Inclusion	• Schools make Diversity, Equity, and Inclusion commitments
TEALS volunteer recruitment	• Engage with the local community and your school's/district's network to share this volunteer opportunity
Data sharing	• TEALS classroom enrollment numbers • Student and teacher course experience survey
Recruit classroom teacher	• 2+ years teaching experience • Attends required curriculum training and TEALS training • Commits to becoming a CS champion in the school
Identify school staff partners	• School administration contact • District contact (as applicable) • IT liaison (as applicable)

"The impact that the TEALS Program has brought in my life is learning new things about myself that I never thought I would know, and it has allowed me to be even more creative."

– Imani Brock,
New Orleans, TEALS student

Microsoft has partnered with the Computer Science Teachers Association (CSTA) to support and engage 2023-24 TEALS Program teachers, including offering a CSTA+ **membership at no cost** to current and alumni TEALS teachers. Visit csteachers.org to learn more about the CSTA.

Learn more about bringing the TEALS Program to your school at

Microsoft.com/TEALS

TEALS Program

Putting high school students on a pathway to economic opportunity through equitable, inclusive computer science

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