Code.org District Partnership Model

Bring computer science courses to your district!

"Everybody in this country should learn how to program a computer… **because it teaches you how to think."**

— Steve Jobs

C O
D E

Code.org is a 501c3 non-profit organization focused on bringing computer science to every K-12 school. Code.org is offering select school districts an opportunity to apply to a nationwide program in which they will receive a package of nationally-recognized computer science courses, complete curriculum resources, and multi-year teacher professional development, at no cost to the district.

What Code.org brings to the District and Schools

Code.org is focused on three goals to scale K-12 computer science: **advocate, celebrate** and **educate.**

Advocate

Advocate for policies to remove barriers and expand instruction in K-12 computer science.

Celebrate

We aim to debunk common misconceptions about who computer scientists are and what they do. Through the Hour of Code, featuring video tutorials from Chris Bosh, Bill Gates and Mark Zuckerberg, millions of students around the world have sparked an interest in computer science. Short promotional videos highlighting what computer science can do have driven increased CS enrollment across the country.

Educate

Code.org provides a complete K-12 package of computer science opportunities consisting of three K-5 courses, computer science integration into 6-8 math and science courses and two nationally recognized 9-12 courses. In addition to curriculum resources and technology tools, Code.org brings a multi-year professional development program. All costs associated with the professional development, including teacher stipends (except K-5 teachers), are covered by Code.org. The course and professional development model reflect a blended learning approach in which online components are used to enhance in-person learning.

Grades K-5: 20-hour online blended courses

The K-5 Computer Science Program consists of the following course modules:

- **Course 1: for early-readers, ages 4-6**
- **Course 2: for beginners, ages 6+**
- **Course 3: for ages 6+**

Course modules are taught within pre-existing classes and consist of about 20 lessons each that can be implemented in a 45-50 minute class. They use a blended-learning approach where on-line, self-guided, self-paced tutorials are used in conjunction with hands-on, "unplugged" lessons.

Grades 6-8: Computer Science in Math and Science

The Middle School Computer Science Program, consists of interdisciplinary modules that combine computer science concepts with science and mathematics. These lesson sets are meant to be interwoven into pre-existing mathematics and science courses and will not add substantial instructional time. Each lesson is designed to be implemented in a standard 45-50 minute class period. These lessons are topical and should be used within the natural context of the class. All lessons are aligned with common state standards in science and mathematics, including the NGSS and CCSS.

Grade 9-12: Introductory Computer Science and Computer Science Principles

The two course levels can be implemented as a suggested course sequence (as in a CTE pathway) or a multiple entry point program that meets the needs of many types of learners and allows students with different background experiences to take different paths through the offerings.

ECS—Exploring Computer Science (All grades)

Exploring Computer Science is a nationally recognized introductory college preparatory computer science course designed to support broadening participation in computing and includes curriculum, professional development, and assessments. ECS includes six foundational units with lessons that are designed to promote an inquiry-based approach to teaching and learning essential concepts in computer science while highlighting the computational practices and problem solving associated with doing computer science.

More information at: www.exploringcs.org

CSP—Computer Science Principles (Sophomores/Juniors/Seniors)

Currently in a pilot phase leading to an AP® exam* in academic year 2016-2017, this course is far more than a traditional introduction to programming and the fundamental concepts of computing. It is a rigorous, engaging, and approachable course designed so that each student will understand how these concepts are transforming the world we live in and how each student can use the concepts in their own lives, studies, and in collaboration with others.

Code.org is creating a complete curriculum (lessons, videos, tutorials, assessments, etc.) for CSP designed specificly to create an accessable environment for high school students.

More information at: www.csprinciples.org

AP Computer Science A or Elective

Code.org will connect the district with third party organizations offering these courses that are endorsed, but not funded by Code.org.

* AP® is a registered trademark of the College Board.

Professional Development Models

Grades K-5

One-day, free professional development for our K-5 program is handled through local affiliates. Code.org will try to locate an affiliate within a reasonable geographic distance to a district partner. If a local workshop exists, Code.org will ensure spots for teachers from district partners.

See **http://code.org/educate/k5** for more details

Grades 6-8

Phase 1
Multi-hour (approximately 10) online component focused on both pedagogy and computer science content.

Phase 2
Multi-day in person professional development workshop.

- Focused on introducing where key computer science concepts align to commonly used math and science curricula aligned to Common Core and Next Gen Science Standards.
- Exploration of specific curricular tools.
- Creating a professional learning community that will extend throughout the Code.org partnership.

Phase 3
One day in-person and/or online professional development workshops combined with optional participation in online support.

- Provide just in time teaching to meet the needs of district teachers
- Prepare teachers to provide in-house professional development to the rest of their department
- Highlight possible extensions for interested schools

Grades 9-12

Phase 1
Multi-hour (approximately 10) online course focused on building computer science content knowledge and reflecting on pedagogical techniques to broaden participation in computing.

Phase 2
Summer 5 day in person professional development workshop.

- Focused on quality computer science pedagogy—Teaching content through inquiry and equity
- Role-play lessons using Teacher/Learner/Observer Model
- Creating a professional learning community that will extend throughout the Code.org partnership.

Phase 3
Quarterly in person and/or online professional development workshops combined with online support.

- Provide content and pedagogical support for upcoming units
- Continued use of the Teacher/Learner/Observer Model

Phase 4

- Multi-day in person professional development workshop
- Reflection and follow up on the academic year
- Preparation for teachers to continue their own personal development as the structured PD model comes to a close.

Partnership Timeline

		Teacher Cohort 1	Teacher Cohort 2
YEAR 1	Fall	Identification of schools and teachers for Cohort 1 *District-wide Hour of Code*	
	Spring	**Phase 1** Online content knowledge and pedagogy building	
YEAR 2	Summer	**Phase 2** Summer in-person professional development workshops	
	Fall	Start of new computer science course(s) within the district **Phase 3** Online and/or in-person PD *District-wide Hour of Code*	Identification of schools and teachers for Cohort 2
	Spring	Qualified teachers participate in apprentice facilitator workshop	**Phase 1** Online content knowledge and pedagogy building
YEAR 3	Summer	**Phase 4** In-person workshop to reflect on first year teaching computer science and prepare for future years	**Phase 2** Summer in-person professional development workshops
	Fall	*District-wide Hour of Code*	Start of Cohort 2 computer science course(s) within the district **Phase 3** Online and/or in-person PD
	Spring		Qualified teachers participate in apprentice facilitator workshop
YEAR 4	Summer		**Phase 4** In-person workshop to reflect on first year teaching computer science and prepare for future years
	Fall	*Code.org releases district from PD program and continues to collect data in order to assess ongoing impact.*	
	Spring		

For more information on recommended ECS and CSP professional development models, please see the previous page

Commitments by the District and Schools

Partner District Agrees To:

- Promote all new courses to the district, using Code.org's marketing materials
- Establish course codes for both Computer Science Principles and Exploring Computer Science
- Allow PD to satisfy district hourly requirements for annual professional development
- Establish a Computer Science Program Director within the district and create working groups across departments to help implement the program
- On-going follow up on key implementation details and dates, such as professional development workshops and marketing/orientation events for teachers and principals
- Hold a district-wide Hour of Code™ event each year
- Allow Code.org use of facilities for professional development of teachers (if needed) at no cost to Code.org
- Allow Code.org and its evaluators to assess the program, including aspects of teacher professional development and student outcomes
- Sign a three-year agreement (renewable annually) detailing these terms
- Sustain the program after the term of the agreement
- Offer Core Credit (math/science) for Computer Science Principles
- Establish or connect with a community of practice within the area

Partner Schools Agree To:

- Offer one or both of Code.org's High School Computer Science Courses:
  + Exploring Computer Science (introductory level)
  + Computer Science Principles (AP level)
- Optional but recommended: Offer Code.org' elementary and middle school programs
- Promote all new courses to the school community, using Code.org's marketing materials
- Set up classrooms for success
  + Guarantee that each teacher participating in Code.org's professional development will teach the appropriate course in the upcoming school year
  + Meet minimum technology requirements, including one-to-one computing environments and online connectivity at 10MB/sec
  + Assign a time-slot and a room on the master schedule for each course offered
  + Provide the necessary materials to support each section of course offerings by the district. For example, Exploring Computer Science uses building blocks and poster-sized post-it-notes for some activities. Total costs are expected to be less than $100 per class.
- Assign one administrator and one counselor to manage the program within the school and attend Code.org's Counselor/Administrator Professional Development Workshop
- Provide travel for a teacher to an alternate location if they cannot make a local workshop

Partner Teachers Agree To:

- Participate In Code.org's Professional Development Program:
  - + High School Teachers—Four phases over 15 months, approximately 90 hours
  - + Middle School Teachers—Three phases over 12 months, approximately 35 to 50 hours
  - + Elementary School—Handled through Code.org's Elementary School Affiliate Program (no stipends provided)
- Teach the Code.org courses with fidelity
- Participate in evaluation of the Code.org program

Code.org is a 501(c)3 non-profit dedicated to expanding participation in computer science education by making it available in more schools, and increasing participation by women and underrepresented students of color. The Code.org vision is that every student in every school should have the opportunity to learn computer programming.