Welcome to our Family!

Code.org Professional Learning Program
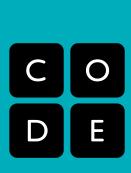
2016-2017

Computer Science in Science

PROJECT GUTS
Growing Up Thinking Scientifically

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C O
D E

Dear Educator,

Congratulations! You are now part of Code.org's family of teachers working across the United States to bring computer science courses to our public schools. As the founder of a young and relatively small organization, I've been humbled by the passion of educators such as yourself, taking the first step to bring computer science to your students and to open a world of opportunity for them.

Over the next 12 months, you'll participate in Code.org's Computer Science in Science (CS in Science) Professional Learning Program. We have chosen to partner with Project GUTS (Growing Up Thinking Scientifically) to introduce computer science concepts into middle school science classrooms. The goal of the program is to situate computer science practices and concepts within the context of life, physical, and earth sciences. By introducing your students to CS in Science, you're preparing them to pursue formal, year-long courses in computer science during high school.

Your CS in Science program consists of four instructional modules (the Project GUTS curriculum) and Code.org Professional Learning Program aimed to introduce computer science within the context of modeling and simulation in your science classroom. Additionally, you'll gain resources to identify areas of overlap between the Next Generation Science Standards and Computer Science Teachers Association K-12 Computer Science Standards.

We look forward to working with you toward successful completion of our Professional Learning Program. It is important that you read and understand the Code.org welcome kit as it gives key details about our program that you can reference as you go through the one-year program.

If at any point throughout your professional learning experience you have a question, please let us know by e-mailing **teacher@code.org**.

Thanks for joining the movement,

Sincerely,

Hadi Partovi
Co-founder, CEO
Code.org

Professional Learning Program overview

The CS in Science Professional Learning Program is a multi-phase program developed by Project GUTS, designed to make it easy to integrate computer modeling and simulation into middle school science classrooms. Throughout the program, educators become comfortable with curriculum, tools, and teaching practices that will help them engage their students in the powerful scientific practice of computational thinking!

CS in Science curriculum

The middle school CS in Science curriculum consists of interdisciplinary modules that combine computer science concepts with science. These lesson sets are meant to be interwoven into pre-existing 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, including the NGSS.

Visit **code.org/curriculum/science** for curriculum documents, videos and other resources about **CS in Science**.

Program commitments

Phase 1: Online Introduction	Phase 2: Blended Summer Study	Phase 3: Academic Year Development
May 2016	Summer 2016	September 2016 - May 2017
• 3 hours online, self-paced	• 2 days in-person (14 hours) • 7 hours online, self-paced	• 2 one-day in-person sessions (14 hours total) • 10 hours online, self-paced

Overview of program phases

The CS in Science Professional Learning Program is broken into three phases. These phases are designed to support science teachers throughout their first year of implementing the CS in Science curriculum.

Phase 1: Online introduction

Overview: The first phase of your professional learning is an online module that focuses on providing a foundational knowledge of the Code.org program and CS in Science course resources. It creates a space for participants to become familiar with the curriculum, the platform, and the tools that will be used in the course.

Phase 2: Blended summer study

Overview: The second phase of your professional learning is blended starting with an in-person experience and followed by an online module.

- **In-person workshop:** This 2-day workshop is the primary capacity building experience for teachers prior to their first year of instruction. Focusing on quality computer science pedagogy, teachers will gain practical experience teaching content through inquiry and equity. Participants will role-play lessons using the Teacher/Learner/Observer Model allowing teachers to experience modules as learners in a group setting. The workshop cultivates a professional learning community — an important teacher tool during the first-year of teaching this course.

- **Online follow-up:** This 7-hour online experience provides space for teachers to dive deeper into the curriculum and experience tools that students will use in the class.

Phase 3: Academic year development

Overview: The third phase of your professional learning is composed of blended in-person meetings and online modules.

- **In-person workshops:** In these one-day workshops, you'll continue to build pedagogical strategies and prepare for the implementation of the modules. You will work with colleagues and facilitators to review best practices for integrating modeling and simulation into science classes.

- **Online modules:** You will work with the tools, content, and helpful resources through online modules providing continued support. You'll further build your online professional learning community as you report out on implementation, student engagement and learning, and/or barriers encountered.

Tech requirements

Here are the minimum tech requirements necessary to teach **CS in Science**

Computer lab with 1:1 computers with the following:

PC	• Dual Core-series processor (Dell 745 or higher) running Windows XP or newer • Modern browser (Google Chrome preferred) IE 11 or greater, Firefox, Safari (must enable Flash) • Adobe Flash version 11.2 or better installed (14 is latest)
Mac	• Intel® Core™ Duo (1.6 GHz or higher) running OSx 10.6.8 • Modern browser (Google Chrome preferred) IE 11 or greater, Firefox, Safari (must enable Flash) • Adobe Flash version 11.2 or better installed (14 is latest) Chromebook • Chrome OS • Acer or HP preferred

The following domains white-listed for access:

- slnova.org
- Code.org
- youtube.com/education
- web.mit.edu

Your classroom should have an Internet connection with bandwidth capable of supporting downloads of 5 megabits per student using the software during a period.

Helpful links

- **CS in Science Professional Learning Program:**
  https://code.org/educate/professional-learning/cs-in-science

- **CS in Science Curriculum:** https://code.org/curriculum/science

- **Project GUTS Website:** http://www.projectguts.org/resources