

# Teaching Physical Computing with Arduino Syllabus

CodeHS Professional Development Online Course

## Details

**Course delivery method:** Self-Paced Online Delivery

**Contact hours:** Approximately 5 hours

**Prerequisite(s):** Some experience using CodeHS curriculum and LMS will be helpful

## Introduction

Adding physical components to a computer science course changes the teaching and learning experience in a multitude of ways. In this 5 hour course, teachers will prepare to teach the *Intro to Physical Computing with Arduino* course by making sense of the materials list and resources, investigating some common bugs in code and devices, and exploring best practices with physical projects.

## Course Outcomes

Educators will:

- Find materials to build and organize their classroom set
- Navigate and use provided resources to limit planning time and maximize hands-on learning
- Understand how to best debug issues in code and physical devices
- Direct students to projects that will captivate their interests and give them the tools to complete self-directed projects

## More Information

Browse the content of this course at <https://codehs.com/course/18304/explore>.

## Course Breakdown (approximately 5 hours)

Unit 1: Welcome to Teaching Physical Computing with Arduino	
<b>Topics Covered</b>	<ul style="list-style-type: none"> <li>• Why Teach Physical Computing?</li> <li>• Exploring Resources</li> <li>• Simulation Platforms</li> </ul>
Unit 2: Debugging	
<b>Topics Covered</b>	<ul style="list-style-type: none"> <li>• Debugging Code</li> <li>• Debugging Physical Components</li> <li>• Debugging in the Classroom: Tips &amp; Tricks</li> </ul>
Unit 3: Student-Led Projects	
<b>Topics Covered</b>	<ul style="list-style-type: none"> <li>• Exploring Their Own Sensors</li> <li>• Step-By-Step Project</li> <li>• Creating Their Own Project</li> </ul>

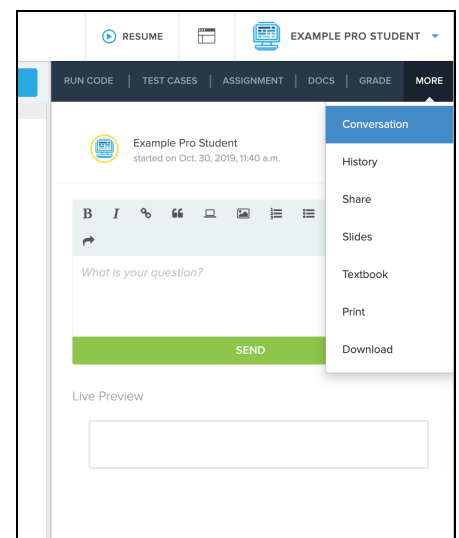
## Communication & Support

The instructor(s) will communicate with students as needed for individual questions and feedback.

## Getting Help with Activities

Course students can use the Conversation tab in the code editor to ask questions about any of the activities in the course. Course instructor(s) will respond to questions and provide feedback in this area as well.

You can find more information about getting help with your coursework [HERE](#).



## Course Criteria for Completion

Once students have successfully completed all activities in the course, a Certificate of Completion will be available.