2019 EDITION

Indiana Computer Science Education Guide

Why Computer Science?

In the 21st century, coding is a foundational skill, just like reading and writing. Everyone should get the chance to learn to code—it's a skill that provides limitless creative opportunities to students and future generations.

With great curriculum, resources, and support, school districts across the country can implement high-quality computer science programs. At CodeHS, our goal is to make computer science education fun and accessible to all!

Indiana CS Education Overview

The Indiana Department of Education made great strides in 2018 with the passing of Senate Enrolled Act 172, requiring all elementary, middle, and high schools to offer computer science by 2021-2022. After June 30, 2021, public and charter high schools, must offer at least one (1) computer science course as a one (1) semester elective in the public high school's curriculum at least once each school year for high school students.

Learn more about the **Senate Enrolled Act 172 (2018)**.

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Indiana CS Standards

CodeHS Alignment to Indiana CS Standards

- Indiana's Middle School Academic Standards Alignment

- Alignment to Indiana Introduction to Computer Science

- Alignment to Indiana Computer Science 1

  ### Indiana Computer Science 1

  Indiana Computer Science 1 is the first coding course fully aligned to Indiana Academic Standards. It's available for free to all schools.

  Access the full course for free at codehs.com/indiana_cs1/start

- Alignment to Indiana Computer Science 2

Indiana State Pathway

Here are the CodeHS courses that align with Indiana middle school and high school computer science standards for grades 6-12. You can also view this interactive pathway at **codehs.com/indiana_pathway.**

7th	8th	9th	10th	11th	12th
Computing Ideas (Lovelace)					
		Introduction to Computer Science (Indiana)			
			Computer Science I (Indiana)		
			AP Computer Science Principles		
				Computer Science II (Indiana)	
				AP Computer Science in Java (Mocha)	

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Course Overview

Computing Ideas (Lovelace)
Grade Levels: 7th, 8th, 9th

The Computing Ideas course is a first computer science course introducing the basics of programming with Karel the Dog, the basics of designing a web page, and how information and images are represented with computers. Students will learn to code using blocks to drag and drop, but they can switch between blocks and text as desired. Students will create a portfolio on the web of projects they build throughout the course. With a unique focus on creativity, problem solving and project based learning, Computing Ideas gives students the opportunity to explore several important topics of computing using their own ideas and creativity and develop an interest in computer science that will foster further endeavors in the field.

[COMING SOON] Indiana Intro to Computer Science
Grade Levels: 9th, 10th

Introduction to Computer Science provides an entry point into computer science. Through computational thinking and collaboration, students will learn the skills and processes needed to develop computer artifacts, basic coding. Data, security and intellectual property will also be explored. Students will develop an understanding of how computer science impacts their everyday lives and explore a variety of careers in the computer science field.

AP Computer Science Principles
Grade Levels: 10th, 11th, 12th

AP Computer Science Principles introduces students to the foundational concepts of computer science and challenges them to explore how computing and technology can impact the world. With a unique focus on creative problem solving and real-world applications, AP Computer Science Principles prepares students for college and career.

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Indiana Computer Science I

Grade Levels: 10th, 11th, 12th

This course is fully aligned to the Indiana Computer Science I course. Computer Science I challenges students to explore the limits of what computers can accomplish. In this course, students analyze and design solutions to problems using programming skills. The fundamental concepts of programming are explored through the hands-on use of computing devices. Additional topics include algorithms, debugging and verification, documentation, security and privacy, communication and collaboration, and careers. All topics are an intrinsic part of the software development lifecycle.

[COMING SOON] Indiana Computer Science II

Grade Levels: 11th, 12th

Programming explores and builds skills in programming and a basic understanding of the fundamentals of procedural program development using structured, modular concepts. Coursework emphasizes logical program design involving user-defined functions and standard structure elements. Discussions will include the role of data types, variables, structures, addressable memory locations, arrays and pointers and data file access methods. An emphasis on logical program design using a modular approach, which involves task oriented program functions.

AP Computer Science in Java (Mocha)

Grade Levels: 11th, 12th

Learn the basics of object-oriented programming with a focus on problem solving and algorithm development. Take this course and prepare to ace the AP Java test.

Explore all free CS course in the CodeHS Course Catalog at
codehs.com/course/catalog

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Professional Development

CodeHS' online and in-person professional development helps train teachers to teach excellent computer science courses -- no programming experience required.

Learn more at codehs.com/info/pd

Online PD Courses

The online PD courses are made up of a series of learning modules that cover both the basics of programming and the pedagogy of teaching programming in a blended classroom. Teachers can complete it on own time, during summer, school professional development days, or school holidays.

- Teaching Intro to Computer Science
- Teaching AP Computer Science Principles
- Teaching AP Computer Science A
- Teaching Computing Ideas
- Teaching Intro to Python
- Teaching Web Design
- Teaching Intro to Cybersecurity
- Level 2 Professional Development for CS Teachers

In-Person PD Workshops

The in-person professional development workshops are for districts looking to train multiple computer science teachers. Workshops can be 1 or 2 days, and cover a variety of topics including leveraging blended tools in computer science classes, subject specific topics, how to customize your class using the CodeHS platform, and more.

Facts About Indiana Computer Science

A summary of the computer science landscape in Indiana

77 Indiana schools offered an AP Computer Science Course in 2017

1,743 Indiana students took the Advanced Placement Computer Science exams in 2018

23,00 jobs in Central Indiana alone will lack qualified computer science talent in 2025

Indiana and Kansas are the two states with the largest percentage increases in software employment from 2014 to 2016

Universities in Indiana only graduated 1 new teacher prepared to teach computer science in 2016

Sources: College Board, Bureau of Labor Statistics, Code.org

CodeHS

Bring a Full Computer Science Program to Your District

Contact us at hello@codehs.com.

✉ **Contact Us**

We'd be happy to chat more!

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