

# eC2 Academy Curriculum Design

V 2025

## Programming Skills for High School Students

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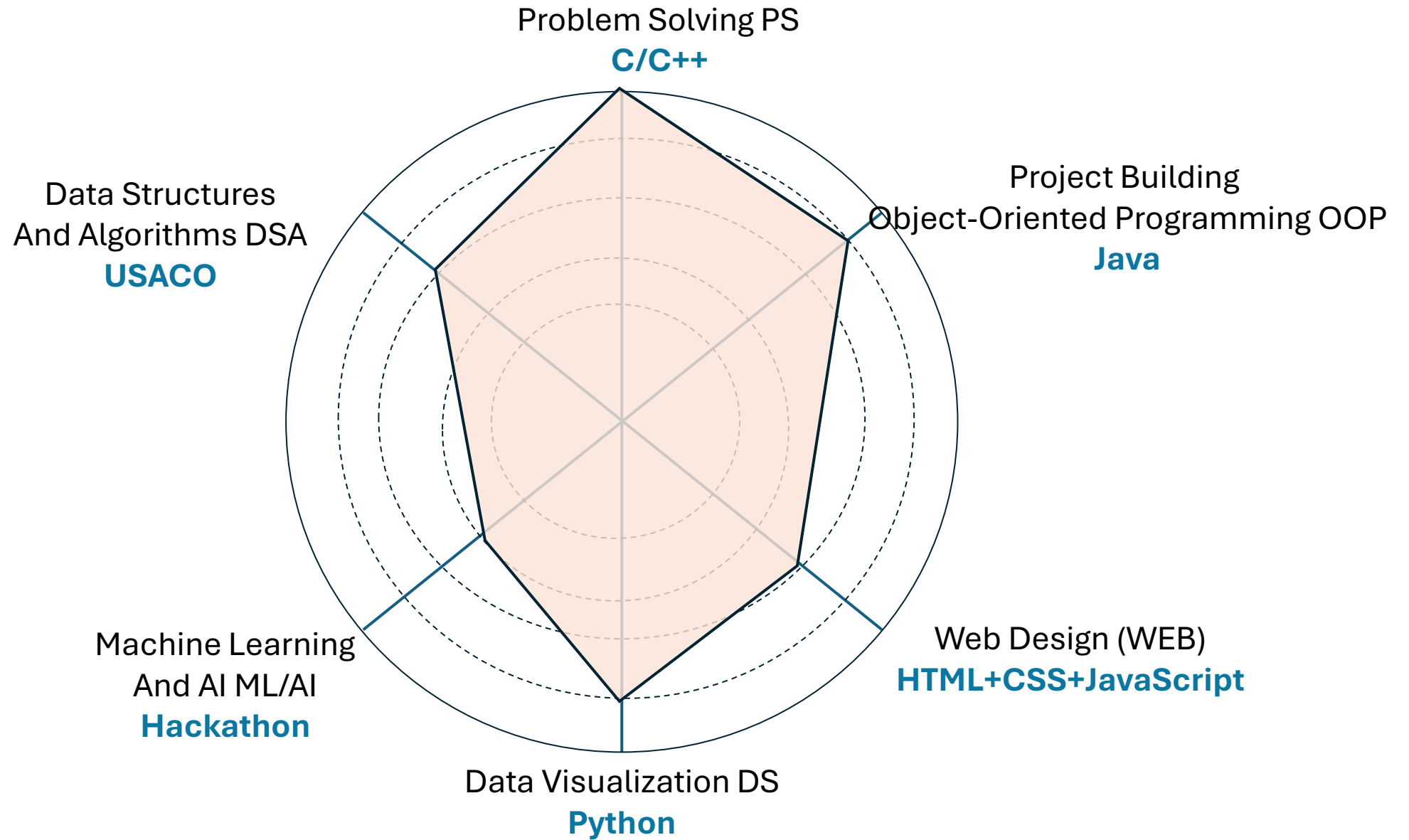


# 57%

of U.S. high schools now  
offer computer science.

**State of  
Computer  
Science  
Education  
2023**

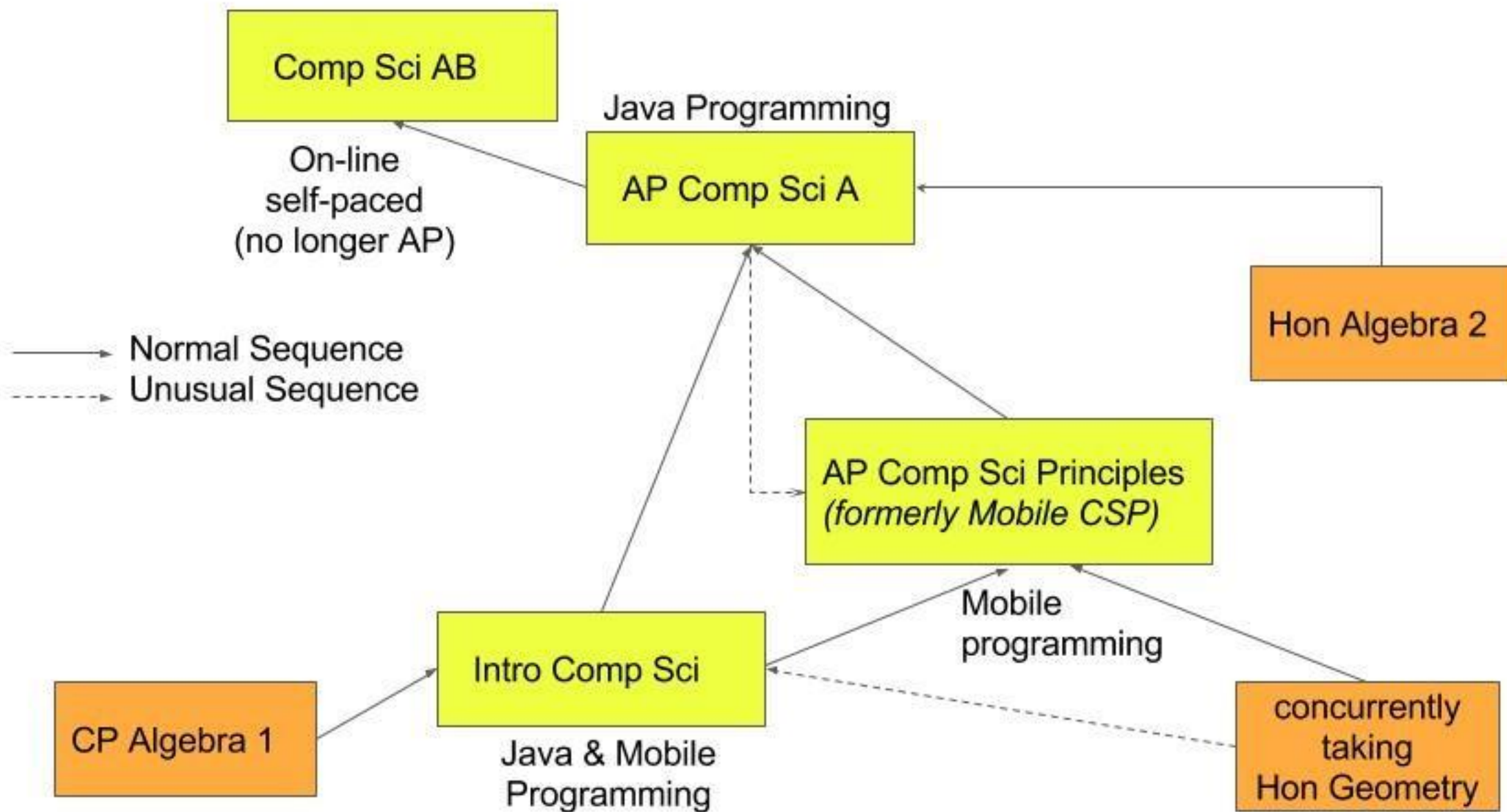
[ADVOCACY.CODE.ORG/STATEOFCS](https://advocacy.code.org/stateofcs)



# Goal of High School Computer Education

- Build up basic programming skills
- Prepare for College computer programs
- Prepare and training for computer competition, club, dual enrollment course, science fair, research

# Typical Computer Science Course Sequences



## AP Computer Science Principles

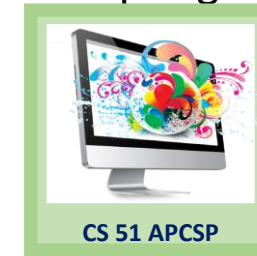
Summer



Fall



Spring



## AP Computer Science A

Summer



Fall

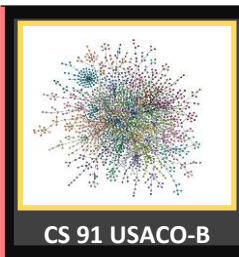
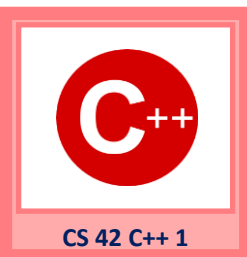


Spring



## C/C++, USACO

Summer



Fall

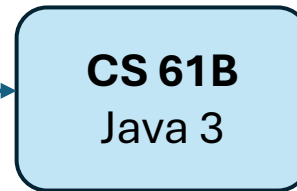
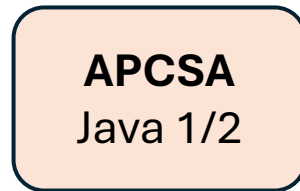
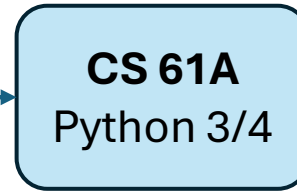
Spring



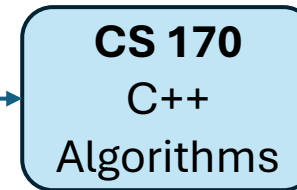
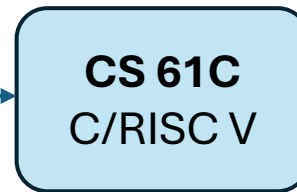
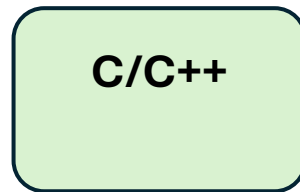
## eC Academy Courses

## UC Berkeley Lower Division

Introduction to CS



## UC Berkeley Lower Division



# Entrepreneurship

LeetCode

Internship Preparation

Presentation  
Skills

Innovation

Science Fair Science Bowl

Qualitative  
Research

Technical  
Writing

Domain  
Knowledge

Research

USACO  
Competitive Programming

Discrete  
Math

Data Structure  
Algorithms

Problem Solving

Hackathon Competition

Backend  
Design

Database  
SQL

Web  
Framework  
react.js/Node.js

Website Design and Software Development

Data  
Science

Machine  
Learning

Neural  
Network

Data Science

Linear Alg. PCA  
MV Calculus

C++ 1/2/3

Java 1/2/3

Web Design  
HTML/JavaScript

Python 1/2/3

Basic Computer Science Education: Languages and Computer Science Principles



