

Somerset Coding Club-Python Pioneers! Course Introduction

Meng Yang



- **Founder of Ms Yang Codecraft Academy**
- **Passionate teacher and advisor for over a decade**
 - **(high school) AP CSA, CS Special Topics, Coding in Python**
 - **(elementary school) Scratch Adventure!, Python Pioneers!**
- **AP Reader: AP CSA**
- **Lakeside Summer School CS Teacher & Curriculum Developer**
- **Software Engineer**
- **Program Manager**
- **Master in Computer Science and Software Engineering @UW Bothell with 2 years' teaching**
- **Two sons, age 9 year and 19 months**
- **One cat**

Curriculum

- Module 1: Introduction to Python Basics
- Module 2: Decision Making and Loops
- Module 3: Functions and Modules
- Module 4: Data Structures - Lists and Tuples
- Module 5: Mini-Projects Mid-term Review
- Module 6: Game Development and Review
- **Bonus:** ACSL competition training
- **Bonus:** Artificial Intelligence

Class Feature

- **Project-based learning:** Learn programming concepts through fun projects.
- **Collaboration:** Encourage teamwork and group activities to develop cooperation skills.
- **Presentation skills:** Practice project presentations to improve communication and public speaking.

Calendar

14 sessions:

Tuesdays, 3:35- 5:00pm

10/8, 10/15, 10/22, 10/29, 11/5, 11/19, 12/3, 12/10,
12/17, 1/7, 1/14, 1/28, 2/4, 2/11 (no class on 11/11,
11/25, 1/20, 12/23, 12/30))

Competition ACSL

- **International Recognition:** A long-running competition that is well-respected by schools and universities, especially for students pursuing computer science.
- **Comprehensive Curriculum:** Covers key computer science topics like algorithms, data structures, and logic, providing a strong foundation.
- **Skill Development:** Enhances programming and problem-solving skills, preparing students for future studies and competitions.
- **University Applications:** Participation can strengthen college applications, particularly for STEM-related fields.

Competition ACSL

ELEMENTARY DIVISION

Open to students in grades 3 - 6.

Each contest consists of an online 30-minute, 6-question non-programming test, focused on a single category of content. A different category will be tested on each contest.

ACSL Topics

- **Computer Number Systems:** Students learn about different number systems such as binary (base-2), decimal (base-10), and hexadecimal (base-16), and how to convert between them.
- **Prefix/Infix/Postfix Notation:** These are different ways of writing mathematical expressions. Infix is the traditional notation we use in daily math (e.g., $2 + 3$), while prefix and postfix are alternative ways that do not require parentheses and are commonly used in computer science for evaluating expressions.
- **Boolean Algebra:** This topic involves logical operations such as AND, OR, NOT, and how these can be used in decision-making processes, essential for understanding logic circuits and programming.
- **Graph Theory:** Introduces students to basic concepts in graphs, including vertices and edges, and teaches them how to represent and analyze relationships and connections in networks.

ACSL Schedule

There are four contests during the regular season. The window during which each contest can be followed.

- **Contest #1: available Nov. 4, 2024; closes Sunday January 12, 2025 @ 11:59pm EST**
- **Contest #2: available Jan. 6, 2025; closes Sunday March 2, 2025 @ 11:59pm EST**
- **Contest #3: available Feb. 3, 2025; closes Sunday April 13, 2025 @ 11:59pm EDT**
- **Contest #4: available March 3, 2025; closes Sunday May 18, 2025 @ 11:59pm EDT**

Based on the scores during the regular season, top students in all divisions will be invited to participate in the Finals competition:

- **Invitations E-mailed: May 1, 2025 through May 21, 2025**
- **Invitational Finals: Saturday, May 24, 2025** (Memorial Day weekend in the United States)

**More ACSL
Information**

<https://www.acsl.org>

Note

Students who participate in the competition will have prioritized registration in second semester.

THANKS!
Q&A



- msyangcodecraftacademy@gmail.com