

## DSM Academy Computer Science Courses (2023 Spring)

All courses will be delivered via Zoom. Lecture recording and notes will be available to students.

**\*Early bird discount:** sign up and pay tuition by **January 6, 2023**.

**Course Registration:** <https://www.DSM-Academy.net/>

**Contact:** [DSMAcademy.Shen@gmail.com](mailto:DSMAcademy.Shen@gmail.com), [js48@txstate.edu](mailto:js48@txstate.edu)



WeChat: jianshentx



DSM Academy WeChat Group:

**15 weeks (January 18 – May 3, 2023)**

**Meet once a week on Wednesday**

No Class on March 15 (Spring Break)

Course/ Instructor	Time	Students	Tuition
<b>Python Programming I</b> <i>Dr. Chao Gong</i>	6:00 - 7:15 PM (Central Time) Wednesday	Grades 5--12	\$300 (regular) Early Bird: \$280
<b>Python Programming II</b> <i>Dr. Wenbin Luo</i>	6:00 - 7:15 PM (Central Time) Wednesday	Grades 5--12	\$300 (regular) Early Bird: \$280
<b>USACO Training</b> <i>Dr. Wenbin Luo</i>	7:30 - 8:45 PM (Central Time) Wednesday	Grades 5--12	\$300 (regular) Early Bird: \$280

### CS Course Instructors:

Dr. Wenbin Luo – Professor of Computer Engineering at a private university. He has a Ph.D. in Computer Engineering.

Dr. Chao Gong – IT security consultant. Dr. Gong had been a college CS professor for 15+ years, currently working in the industry as an IT security consultant. He has a Ph.D. in Computer Science.

### DSM Computer Science Course Description:

#### Python Programming I

Python is one of the most popular programming languages among data scientists and machine learning researchers. It is a perfect language for students to learn fundamental programming skills and concepts. In this course, students will not only build solid programming skills, but also master Python specific features. Topics include, but are not limited to the following: variables,

expressions, statements, conditional execution, functions, iteration, and strings. Python programming is ideal for students 11 to 19 years old.

### **Python Programming II**

Python Programming II is for students who have completed *Python Programming I* or have some prior experience in Python. In this course, students will learn more advanced materials in Python. Topics include, but are not limited to the following: advanced string manipulation, reading and writing files, lists, dictionaries, tuples, and regular expressions. In addition, students will learn how to use Python to draw graphics and develop GUI programs. Python programming is ideal for students 11 to 19 years old.

### **USACO Training**

USACO Training is for students who have completed *Python Programming II* or have equivalent experience in Python programming. This course will mainly focus on teaching students competitive programming in Python to prepare them for the coming USACO bronze level contests from December 2022 to March 2023. In addition, students will also learn basic data structures & algorithms concept and implementation in Python. Topics include, but are not limited to the following: algorithm analysis, stacks, queues, dequeues, linked lists, recursion, searching, and sorting. Two things are important for the USACO contest: 1.) Mastery of the programming language itself; and 2.) Computational thinking skills. **Participating in a USACO contest is completely free and students can take the contests as many times as they want.** Each year, four contests are scheduled over the weekends in December, January, February, and March. USACO Training is ideal for students 11 to 19 years old.

### **Notes:**

- ❖ Homework assignments will be given after each class. Students are highly encouraged to try and complete it before the next class, when the instructor will discuss the solution.
- ❖ All lectures will be recorded so that students can watch them later in case they have to miss some classes, due to family vacation or other unforeseeable events.