COURSE SYLLABUS

Computer Science Summer Program NYC (High School)

In this intensive bootcamp, you'll learn to program using Java and Python, two of the most popular and universally-applicable languages used by software developers today. This course will give any student a head-start in university-level coding courses.

> Group classes (NYC) and onsite training are available for this course. For more information, email hello@nextgenbootcamp.com or visit: https://www.nextgenbootcamp.com/certificates/computer-science-summer-camp



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Course Outline

This package includes these courses

- Java Summer Program NYC (High School) (50 Hours)
- Python Data Science & AI Machine Learning Program NYC (High School) (45 Hours)

Java Summer Program NYC (High School)

This immersive course helps high school students master Java programming and prepare for success in college-level computer science. Through real-world projects and hands-on coding, students will gain the skills to think and work like professional developers.

- Write and use industry-standard algorithms with clear, structured logic
- Develop programs using both object-oriented and procedural paradigms
- Build a strong foundation in variables, conditionals, loops, and functions
- Manipulate arrays, strings, and dictionaries while managing program input/output
- Implement object-oriented principles like inheritance, polymorphism, and encapsulation
- Practice recursion and learn how to break down complex programming tasks into simpler components

Python Data Science & AI Machine Learning Program NYC (High School)

In this program, high school students will explore the world of Python programming, data science, and machine learning through hands-on training in NYC. From writing code to building visualizations and predictive models, this course offers a comprehensive foundation in tech-driven problem solving.

- Learn Python fundamentals including data types, conditionals, loops, and functions
- Manipulate and clean real-world data using pandas and NumPy

- Read, write, and process files while working with string methods and structured data
- Visualize data with Matplotlib by creating custom charts, histograms, and plots
- Explore machine learning techniques such as linear regression, classification, and K-nearest neighbors
- Complete a capstone project that demonstrates your ability to analyze and present data insights