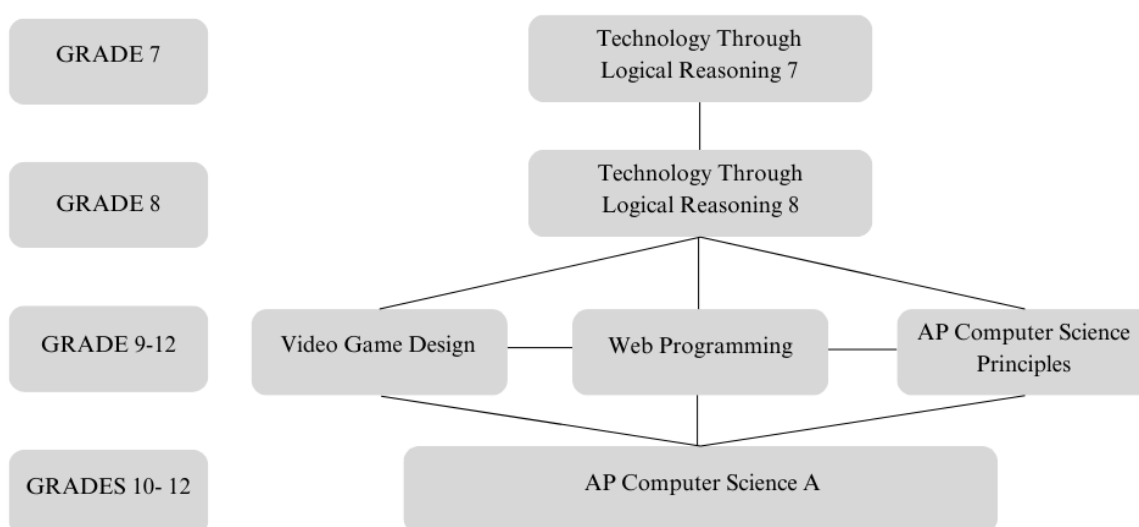


COMPUTER SCIENCE & TECHNOLOGY



Computer Science and Technology are essential components of high school education. Learning computer science empowers young people to compete in the global economy and pursue careers across all sectors because it teaches students computational thinking and problem-solving skills applicable in any industry. The Computer Science Department at Oyster Bay Middle/High School proactively equips our student body with the concepts and critical thinking skills required to

meet the global educational and vocational challenges of the present and future.



TECHNOLOGY THROUGH LOGICAL REASONING 7

7200

Technology Through Logical Reasoning 7 is a middle level course focused on hands-on and real-world applications of mathematical and logical reasoning. Students will be introduced to green architecture and construction while also engaging in an introduction to computer science and digital citizenship. Through group projects and an experiential approach, students will engage in authentic problem solving to find creative solutions to complex problems of the modern world.

GRADE 7

HALF YEAR

TECHNOLOGY THROUGH LOGICAL REASONING 8

7250

Technology Through Logical Reasoning 8 is a middle level course focused on hands-on and real-world applications of mathematical and logical reasoning. Students will expand their knowledge of computer science, coding, networks and more. Through group projects and an experiential approach, students will engage in authentic problem solving to find creative solutions to complex problems of the modern world.

GRADE 8

HALF YEAR

COMPUTER SCIENCE ESSENTIALS: VIDEO GAME DESIGN

7130

Using Python syntax, students will design, program, evaluate, and improve their own two-dimensional game. Interactive games will incorporate sounds and computer-controlled objects.

GRADES 9-12

0.5 CREDIT

COMPUTER SCIENCE ESSENTIALS: WEB PROGRAMMING

7135

In this course, students will use both Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS) to code and modify the appearance of Web page content and layout. Students will learn Responsive Web Design and use Java- Script to create Dynamic Web Pages for optimal viewing experience irrespective of the device used to display the Web page. This course offers college credit for a fee through one of Oyster Bay High School's college partnerships.

GRADES 9-12

0.5 CREDIT

ADVANCED PLACEMENT COMPUTER SCIENCE PRINCIPLES

7155

This portfolio-based course introduces students to the basic ideas of computer science. It is intended to foster creativity through computer science to solve problems or bring new ideas to life. Effective communication and collaboration skills will be a focus of coursework while harnessing the power of computer science to positively impact the community. Students will take the Advanced Placement examination in Computer Science Principles in May.

GRADES 9-12

1.0 CREDIT

ADVANCED PLACEMENT COMPUTER SCIENCE A



7150

This is a challenging course in the programming language Java that exposes students to new material and prepares them for college computer coursework. The focus of this course is on programming concepts, algorithm design, data structures, and data abstraction. Students are expected to write programs, complete a lab book, and do a case study. Students will take the Advanced Placement examination in Computer Science A in May. This course is only offered alternate years.

Prerequisite: AP Computer Science Principles, Video Game Design or Web Programming

GRADES 10-12

1.0 CREDIT