

Why take Computer Science? AP Computer Science next year?

COMPUTER SCIENCE/AP COMPUTER SCIENCE AT NORTH OL MSTED HIGH SCHOOL

The AP Computer Science A course is a good choice for students in any discipline because it provides a solid foundation for computer-related careers: computer programming, mathematics, engineering, business, and the natural sciences. As far back as May 2001, the AP Computer Science A Exam was administered to approximately 15,000 students.

This course was designed for students with little or no background in computer programming. The topics studied include sequence, repetition, conditions, functions, one- and two-dimensional arrays, recursion, and an object-based approach to classes.

Students choosing this course have a wide range and variety of both interests and knowledge. Some students have already been exposed to programming in some form or another but are not schooled in good style and technique. Others, however, enroll in the course with no prior knowledge and are excited about learning programming from scratch. This second set of students often rise admirably to the occasion, perform well on the AP Exam, and frequently decide to pursue careers in computer science or engineering that they would not have considered without experiencing the AP Computer Science A course.

Almost exclusively, the goal of the Computer Science/AP Computer Science course is to impart valuable problem-solving skills; for the most part, this is supported by constructs within the programming language itself. Students use these skills to write real solutions to problems presented by the teacher. They use reusable modules of code written by experienced programmers to help solve these problems. Students eventually learn how to both modify and improve the classes or reusable modules of code.

The most important example of modifying an existing class is the "Master/Apprentice" approach used to interact with the course's featured case study. Each year a narrative describing the solution to a problem, the solution code, and study questions make up the year's featured case study. The AP Computer Science A Exams for 2007 and 2008 will feature the "GridWorld" Case Study, which will first appear on the 2007. Through this case study, together with other course materials, students learn methods of programming and ways to organize larger solutions. The AP Computer Science A course gives students a competitive edge for their first year in college or university. Above all, the course is contemporary and very exciting for students.

Instructor: Paula L. Caso

Credit: Math Elective
(Honors/AP)

5755 Burns Road
North Olmsted, OH 44070

Phone: 440-779-8799

Fax: 440-777-2216

E-mail: pcaso@leeca.org

(Adapted from an article written by Dave Slemon who is a teacher of AP Computer Science at St. Clement's School in Toronto)