COMPUTER SCIENCE DEPARTMENT

COMPUTER PROGRAMMING 1 A/B **298900/299000**

This course introduces the basic principles of structured programming within the context of an object-oriented language. Topics covered include fundamentals of the **C + + programming language,** simple and structured data types, control statements, functions, arrays and classes. Emphasis is placed on developing effective problem-solving techniques through individual and team projects.

Co-requisite: Geometry or Honors Geometry

Grade Level: 9-10-11-12 May be repeated one time

AP® COMPUTER SCIENCE A/B,
COMPUTER PROGRAMMING 2 **290100/290200**

Using the **Java** language, students explore in-depth work with text files and arrays, abstract data types, recursion, searching and sorting algorithms, and program efficiency. Examination of specified class behaviors, interrelated objects and object hierarchies are studied. Students may elect to take the A version of the Advanced Placement® Computer Science examination upon completion of this course.

Prerequisite: Computer Programming 1 A/B

Grade Level: 10-11-12 No repeats for credit

ADVANCED TOPICS IN COMPUTER SCIENCE A/B
COMPUTER PROGRAMMING 3 **296500/296600**

Students will study advanced programming methodology, the features of programming languages, primitive data types, dynamic allocation of memory, data structures, searching, sorting, and numerical algorithms, using the **Java** programming language. Students are also introduced to software engineering concepts and team-oriented approaches for solving problems. Students will explore advanced topics such as memory management, network programming, simulation and game development, and multimedia programming.

Prerequisite: Computer Programming 2 A/B

Grade Level: 11-12 No repeats for credit

WEB SITE DEVELOPMENT A/B **299100/299200**

Students learn Web design from storyboard to a finished online Web page and develop actual sites from customers' specifications using HTML, JavaScript, Macromedia web development tools, and object-oriented programming languages. Skills in streaming media, server applications, and 3-D animation are developed. Project management provides students with skills to lead teams through projects, from inception to completion.

Grade Level: 9-10-11-12 No repeats for credit