COMPUTER TECHNOLOGY

GSA's pedagogical approach to the computer curriculum is to offer a wide range of exploratory courses that develop students' interest and skills in the ways computers are used in personal life, society, and the workplace.

Robotics	Computer Programming in Java
Video Technology	3D Computer Modeling
2D Computer Illustration and Animation	

Course #	Course Title	Grade Level	Credits	Prerequisites
51	Computer Programming in Java	9-12	½	
52	Video Technology	9-12	½	
59	Robotics	9-12	½	
65	2D Computer Illustration & Animation	10-12	½	
66	3D Computer Modeling	10-12	½	2D Illus. & Animation

51 COMPUTER PROGRAMMING IN JAVA, 9-12 (½ credit)
Computer programming involves the understanding of programming language concepts and how they are applied to problem-solving. Programming equips students with skills, which involve more than the syntax of a programming language. Computer programs are a form of communication. When developing program solutions, students consider clarity of expression, program maintenance, ease of debugging, program extension, reliability, utility and validity. These concepts are taught by learning to program in Java, an object-oriented programming language and currently the language being used for AP programming at the high school level.

52 VIDEO TECHNOLOGY, 9-12 (½ credit)
Video is probably the most universally known of all visual media and is an integral component of many technology applications. Video creation is not only instructional and analytical, but also artistic. The course will cover all stages of video creation, distribution, and evaluation. Students will learn video basics (camera handling, lighting) as well as pre-production (story generation, script writing, storyboarding), production (casting, direction, filming) and post-production (editing, titling, audio, effects).

59 ROBOTICS, 9-12 (½ credit)
This class will use robots to cover the fundamentals of problem-solving, mechanical design, and computer programming. A robot is an embedded system of software and hardware. Programming and building robots applies science, technology, engineering, and math (STEM) concepts. This course introduces the fundamental concepts of programming and robotics.

65 2D COMPUTER ILLUSTRATION AND ANIMATION, 10-12 (½ credit)
This introductory course allows students to translate analog art skills into digital media by using digital tools to produce, manipulate, and animate original 2D artwork. The course utilizes vector graphics software for creating a wide variety of 2D graphics, such as illustrations, cartoons, icons, logos, diagrams, maps, posters and web graphics. Students learn proportion, perspective, lighting, storytelling, expression, and how basic shapes, symbols, gradients, fill colors, symbols, Bezier curves, and text can be combined to create artwork.

66   3D COMPUTER MODELING, 10-12 (½ credit)
Prerequisite: 2D Computer Illustration and Animation
This introductory course allows students to create illustrations that can then be modeled or animated in 3D. This course utilizes animation software that allows students to visualize, plan, and model in three-dimensional space, as well as explore its animation capabilities. Students create, animate, texture, and light 3D objects and scenes.