COMPUTER SCIENCE

FIFTH GRADE COMPUTER APPLICATIONS
(255)   GRADE 5

1 Trimester

The Fifth Grade Computer Applications class stresses the development of fundamental keyboard and typing skills. Students will receive extensive instruction and practice with a standard QWERTY keyboard layout. Students also receive instruction in basic skills with the graphic word processor module in AppleWorks, an integrated productivity application. These skills include text selection, font and style selection, paragraph formatting, and proofing tools. Students will also learn basic file management and Internet search and retrieval skills, as well as fundamental Photoshop skills.

SIXTH GRADE COMPUTER APPLICATIONS
(256)   GRADE 6

1 Trimester

The Sixth Grade Computer Applications class builds on the skills presented in the Fifth Grade program. Basic keyboard and typing skill instruction further strengthens these skills. Higher expectations are set for typing speed and accuracy. Extensive instruction in fundamental skills in Microsoft Word includes a review of basic formatting tools, as well as standard editing techniques. Students learn more advanced Internet search and retrieval skills. Students receive instruction in the use and management of their school e-mail account, using the FirstClass client software. Basic instruction is also offered in the use of the spreadsheet and in web page design. **Prerequisite:** Fifth Grade Computer Applications.

SEVENTH GRADE COMPUTER APPLICATIONS
(257)   GRADE 7

1 Trimester

The Seventh Grade Computer Applications class builds on the skills developed in the Fifth and Sixth grade curriculum and introduces new productivity skills and applications. Emphasis is placed on the integration of new and established skills in the production of complex documents. Students learn advanced and long document preparation to conclude their instruction in Microsoft Word. A review of the FirstClass e-mail functions and Internet search and retrieval skills is offered. Students learn more advanced web page design skills. Working in conjunction with the Humanities faculty, students learn to record family history information in Family Origins. A concluding project synthesizes skills covered during the term. **Prerequisite:** Sixth Grade Computer Applications.

EIGHTH GRADE COMPUTER APPLICATIONS
(258)   GRADE 8

1 Trimester

The Eight Grade Computer Applications class builds on the skills developed in the other classes in the Middle School Computer Applications curriculum. Touch typing and general keyboard skills will be assessed several times during the term. The focus of instruction will be on the use of the spreadsheet, with an emphasis on its practical application in the math and science curriculum. Students will learn more advanced photo editing skills with Photoshop and fundamental sound editing skills with SoundForge. Students will apply their skills in a research project which will cover approximately half of the term. Their final document will be produced in Microsoft PowerPoint, the presentation software in the Office suite of programs. This project will be coordinat-

ed with the Humanities instructor. **Prerequisite:** Seventh Grade Computer Applications.

● VISUAL BASIC
(261)   GRADES 9-12

1 Trimester – 1st Trimester only

In this introductory course, students will write Windows programs using Microsoft's Visual Basic package. Students will create programs using conditional statements, looping constructs, simple data structures and will adhere to Object Oriented Programming (OOP) methodology.

● WEB PAGE DESIGN
(262)   GRADES 9-12

1 Trimester – 2nd Trimester only

In this introductory course, students will start with a simple text editor and master tags, tables, forms and graphics. Students will then learn to use a web page editor to automate many of the tasks.

● ADV. WEB DEVELOPMENT
(267)   GRADES 9-12

Full Year

Advanced Web Development will cover the latest techniques in sophisticated web page development. The two principal topic areas will be Macromedia Flash and database-driven web site development. Flash is a technology that produces esthetically pleasing graphics for use in interactive, animated websites. Database-driven websites provide dynamic information access and retrieval. This class will accommodate the latest trends and developments in these two technologies. Students will apply their new skills to produce projects through consultation with the faculty and other members of the St. Mark's community. **Prerequisites:** Visual Basic; Web Page Design.

● JAVASCRIPT
(263)   GRADES 9-12

1 Trimester – 3rd Trimester only

This one-trimester course will be offered in the Spring trimester only. In this course students will integrate skills obtained in the prerequisite classes. Students will learn to program in a Web Page environment making sophisticated interactive Web Pages. **Prerequisites:** Visual Basic and Web Page Design.

● DIGITAL ART & MULTIMEDIA I
(676)   GRADES 11-12

2 Trimesters – 1st & 2nd only

See Description on page 33.

⌘ AP C++ A
(264)   GRADES 11-12

Full Year

Computer Science A consists of the study of programming methodology without any discussion of formal correctness proofs or arguments. Algorithms (particularly sorting and searching algorithms) are informally compared and no use is made of "big-O" notation. Data structures and data abstraction are studied in the context of a computer language's built-in types and structures (e.g., arrays and records), and non-linked structures that can be built from these. Recursion is introduced as a control abstraction. **Prerequisite:** Visual Basic.

⌘ AP C++ AB
(265)   GRADES 11-12

Full Year

Computer Science AB deals more formally with program verification and algorithm analysis. In addition to the study of programming methodology and procedural abstraction that is the core of Computer Science A, there is a major emphasis on the study of data structures fundamental to Computer Science AB. This year-long course follows the College Board requirements and is analogous to a one-year college course. **Prerequisite:** Visual Basic or by teacher approval.