Department of Teaching & Learning
Parent/Student Course Information

Advanced Computer Information Systems
(BE 6615 and BE 6613)
One Credit, One Year
Grades 10 - 12

Counselors are available to assist parents and students with course selections and career planning. Parents may arrange to meet with the counselor by calling the school's guidance department.

COURSE DESCRIPTION
Students apply problem-solving skills to real-life situations through advanced integrated software applications, including printed, electronic and Web publications. Students work individually and in groups to explore advanced computer maintenance activities, Web site development, programming, networking, emerging technology and employability skills.

CERTIFICATION
Upon successful completion of practice exams, students who qualify may sit for the Microsoft Office Specialist and/or Adobe Certified Associate industry certifications. These certifications can be used for student-selected verified credit.

COOPERATIVE OFFICE EDUCATION (COE)
Cooperative Office Education (COE) is the supervised on-the-job instructional phase of an occupational preparation program. Students attend classes for all or part of the day and work in an approved business/office position part of the day. The teacher-coordinator and business training sponsor develop an individualized training plan that identifies learning experiences according to the student’s career objective. Transportation is the responsibility of the student. Many Business & IT courses are eligible for the cooperative office education method of instruction. Participation in COE is optional for Business and Information Technology students.

STUDENT ORGANIZATION
FBLA – The Future Business Leaders of America is the co-curricular organization for secondary Business and Information Technology students. The organization enhances occupational preparation for students by helping them attain the following goals: leadership skills; knowledge of the American enterprise system; self-confidence; improvement of home, business, and community; scholarship; citizenship; and career goals.

PREREQUISITE
Computer Information Systems

OPTIONS FOR NEXT COURSE
None

REQUIRED STUDENT TEXTBOOK
None

COMPETENCIES FOR ADVANCED COMPUTER INFORMATION SYSTEMS
Demonstrating Workplace Readiness Skills: Personal Qualities and People Skills
001 Demonstrate positive work ethic.
002 Demonstrate integrity.
003 Demonstrate teamwork skills.
004 Demonstrate self-representation skills.
005 Demonstrate diversity awareness.
006 Demonstrate conflict-resolution skills.
007 Demonstrate creativity and resourcefulness.

Demonstrating Workplace Readiness Skills: Professional Knowledge and Skills
008 Demonstrate effective speaking and listening skills.
009 Demonstrate effective reading and writing skills.
010 Demonstrate critical-thinking and problem-solving skills.
011 Demonstrate healthy behaviors and safety skills.
012 Demonstrate an understanding of workplace organizations, systems and climates.
013 Demonstrate lifelong-learning skills.
014 Demonstrate job-acquisition and advancement skills.
015 Demonstrate time-, task- and resource-management skills.
016 Demonstrate job-specific mathematics skills.
017 Demonstrate customer-service skills.

Demonstrating Workplace Readiness Skills: Technology Knowledge and Skills
018 Demonstrate proficiency with technologies common to a specific occupation.
019 Demonstrate information technology skills.
020 Demonstrate an understanding of Internet use and security issues.
021 Demonstrate telecommunications skills.

Examining All Aspects of an Industry
022 Examine aspects of planning within an industry/organization.
023 Examine aspects of management within an industry/organization.
024 Examine aspects of financial responsibility within an industry/organization.
025 Examine technical and production skills required of workers within an industry/organization.
026 Examine principles of technology that underlie an industry/organization.
027 Examine labor issues related to an industry/organization.
028 Examine community issues related to an industry/organization.
029 Examine health, safety and environmental issues related to an industry/organization.

Addressing Elements of Student Life
030 Identify the purposes and goals of the student organization.
031 Explain the benefits and responsibilities of membership in the student organization as a student and in professional/civic organizations as an adult.
032 Demonstrate leadership skills through participation in student organization activities, such as meetings, programs and projects.
033 Identify Internet safety issues and procedures for complying with acceptable use standards.

Using Advanced Word Processing Functions
034 Compare advanced features of a word processing program to determine the best tools to use for a given task.
035 Create documents using advanced merge functions.
036 Produce documents incorporating tables, templates, autocorrect, styles, smart art graphics and other advanced features.
Create a professional document (e.g., brochure, annual report, newsletter, catalog) demonstrating established principles of design in desktop publishing.

Import text and graphics from other sources (e.g., Internet, CD, DVD, scanner, digital camera and other files).

Integrate a variety of software applications into a word processing document.

Create an online form with a word processing program.

Using Advanced Spreadsheet Functions

Compare features and functions of various spreadsheet programs to determine the best software for an individual’s or organization's needs.

Create a spreadsheet using advanced formatting features and graphics.

Use advanced formulas and functions (e.g., PMT, PV, VLOOKUP, HLOOKUP, FV, COUNT, COUNTIF, IF/THEN, relative and absolute referencing).

Use advanced tools (e.g., macros, scenarios, auditing, pivot table reports, object linking and embedding).

Create and reformat complex graphs.

Analyze, interpret, and present data.

Sort and filter spreadsheet data.

Import and export data to and from a spreadsheet.

Create templates.

Organize a large workbook with multiple worksheets.

Apply linear programming to optimize spreadsheet results.

Using Advanced Database Functions

Evaluate features of various database programs to determine the best software for an individual’s or organization's needs.

Plan, design, and create a database file with advanced features.

Generate customized reports and forms, using advanced formatting features and graphics.

Create and conduct advanced queries to access information.

Import and export data to and from a database.

Enhancing Multimedia Presentations

Research and organize information to build a multimedia presentation with advanced features.

Plan and build multimedia presentations, using advanced features.

Utilize templates and master slides in the design of presentations.

Enhance multimedia presentation layout, according to principles of effective design.

Enhance a multimedia presentation with advanced features (e.g., color, transitions, animations, timing, backgrounds, graphics, charts, graphs).

Incorporate visual elements (e.g., scanned images, digital photography, video images, and streaming, downloadable images from the Internet).

Incorporate audio elements (e.g. music and voice recordings, digital audio [.wav] files, streaming, MIDI interface files).

Integrate a variety of software applications into a multimedia presentation.

Proofread and edit multimedia presentations.

Create handouts and other visuals (e.g., transparencies, speaker's notes, outline, CD/DVD, memory key).

Deliver a multimedia presentation, according to the principles of effective communication.

Critique the clarity and effectiveness of advanced multimedia presentations.

Producing Desktop Published Documents for Print and Electronic Distribution

Gather or create documents and graphics for use in various advanced desktop publishing products, such as flyers, brochures, and newsletters.
Determine appropriate desktop publishing products based upon the purpose of the publication, intended audience, output format, and time and cost constraints.

Apply principles of design, layout and typography.

Design a layout for ease of readability and attractiveness (e.g., white space, column position and spacing, page margins, graphic text placements).

Enhance appearance of document using desktop features (e.g., graphic boxes, lines, illustrations, images).

Create templates or master pages.

Create a variety of multi-page and multi-column documents in a format appropriate for electronic distribution.

Demonstrate use of keyboard shortcuts.

Incorporate original/imported text, graphics, tables, charts and audio/visual elements from a variety of sources.

Convert a document to electronic format (e.g., PDF files, XPS format, and professional layout).

**Designing and Producing Web Pages**

Evaluate the various methods of Web page creation (e.g., integrated software packages, Web design software, Internet browsers, and programming languages).

Research and organize information for a Web site.

Compare the features and functions associated with the Internet, intranets and extranets.

Plan and create a Web site applying design features (e.g., ruled lines, lists, headings, backgrounds, frames, tables).

Apply Web page design features (e.g., ruled lines, lists, headings, background, frames, and tables).

Create hypertext links to other pages or sites.

Proofread, edit, and test a Web site for functionality.

Critique a Web site according to accepted Web design principles.

Develop a plan for posting, updating, and maintaining a Web site.

Describe various methods of publicizing and promoting a new Web site.

**Maintaining, Managing, and Troubleshooting Systems**

Evaluate workstations, equipment, software, and supplies for design, layout, and purchase.

Maintain and upgrade workstations, equipment, software, and supplies.

Analyze software problems to obtain assistance via electronic and hard-copy references and documentation.

Troubleshoot hardware problems (e.g., proper connections, scanner, printer, speakers, and auxiliary drives).

Explore tools (e.g., defragmenter, file compression, scan disk, diagnostic) to manage the operating system.

Demonstrate (or explain) how to install software and customize defaults.

Backup/restore programs and data files.

Investigate advanced desktop configuration techniques (e.g., control panel).

Scan storage devices and equipment for viruses and spyware, and disinfect as needed.

Install peripherals (e.g., scanner, digital camera, fax machine, modem).

Comply with safety and ergonomic precautions associated with computer use.

Compare operating systems (e.g., Windows, Macintosh, UNIX, Linux).

Investigate security issues related to Internet technology (e.g., virus, firewalls, spam, system backup, passwords, wireless, and data encryption).

**Executing Networking Activities**

Identify network types and topologies (e.g., LAN, WAN, bus, ring, star).

Identify components of a local area network.

Identify file structures on networks (e.g., folders, directories, subfolders).
105  Explain the steps to download software/files to a specific workstation.
106  Identify basic network protocols (e.g., TCP/IP, FTP, Voice over IP).
107  Explain the importance of network security (e.g., ethics, rights).
108  Troubleshoot network problems (e.g., understanding network diagnostic tools).

Implementing Programming Activities
109  Enter, run, and debug a program.
110  Code an application program using arithmetic functions.
111  Code an application program using embedded data.
112  Improve appearance of printed reports.
113  Design interactive programs.
114  Write programs to summarize data.
115  Write programs to subtotal and group print.
116  Write modular programs.
117  Write programs using controlled loops.
118  Implement tables.
119  Code an application program using sort routine.
120  Code an application program to display graphic scene.
121  Explore the characteristics and uses of artificial intelligence and expert systems.

Exploring Legal and Ethical Issues
122  Comply with copyright and patent laws pertaining to scanned images and documents, electronic clip art, recorded sounds, recorded and scanned photography, trademarks and other elements adapted for use in desktop publishing, multimedia and Web documents.
123  Analyze situations where scanned/digitized audiovisual elements, documents and electronic graphs may be used legally but are ethically questionable.
124  Comply with policies regarding acceptable use of technology.
125  Investigate computer crime and privacy issues related to Internet technology.
126  Apply concepts of security, integrity, courtesy and confidentiality related to information and communication systems and intellectual property.
127  Investigate the design of Web sites for accessibility and accommodation of special needs (i.e., Americans with Disabilities Act, multilingual).

Preparing for Industry Certification
128  Describe the process and requirements for obtaining industry certifications related to the Advanced Computer Information Systems course.
129  Identify testing skills/strategies for a certification examination.
130  Demonstrate ability to successfully complete selected practice examinations (e.g., practice questions similar to those on certification exams).
131  Successfully complete an industry certification examination representative of skills learned in this course (e.g., MOS, IC3, NOCTI).

Developing Employability Skills
132  Explore domestic and international job opportunities (using the Internet, newspapers, and other sources).
133  Update résumé.
134  Add representative work samples to portfolio, including résumé format suitable for online posting.
135  Use electronic sources to research a company in preparation for a job interview.
136  Participate in a mock interview.
137  Compose an interview follow-up letter.
138  Identify criteria for evaluating self-performance.
139  Prepare a letter of resignation.
140 Explore career and college options for life-long learning.
141 Investigate new and emerging technological trends in the workplace (e.g., video/teleconferencing, workgroup computing, telecommuting, virtual office, voice recognition, electronic calendars and task lists).
142 Identify potential employment barriers for nontraditional groups and ways to overcome the barriers.
Notice of Non-Discrimination Policy

Virginia Beach City Public Schools does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation/gender identity, pregnancy, childbirth or related medical condition, disability, marital status, age, genetic information or veteran status in its programs and activities and provides equal access to the Boy Scouts and other designated youth groups. School Board policies and regulations (including, but not limited to, Policies 2-33, 4-4, 4-7, 5-19, 5-20, 5-44, 6-7, 6-33, 7-48, 7-49, 7-57 and Regulations 2-33.1, 4-4.1, 4-4.2, 4-4.3, 4-6.1, 5-44.1, 7-11.1, 7-17.1 and 7-57.1) provide equal access to courses, programs, counseling services, physical education and athletic, vocational education, instructional materials and extracurricular activities.

To seek resolution of grievances resulting from alleged discrimination or to report violations of these policies, please contact the Title VI/Title IX Coordinator/Director of Student Leadership at (757) 263-2020, 1413 Laskin Road, Virginia Beach, Virginia, 23451 (for student complaints) or the Section 504/ADA Coordinator/Chief Human Resources Officer at (757) 263-1133, 2512 George Mason Drive, Municipal Center, Building 6, Virginia Beach, Virginia, 23456 (for employees or other citizens). Concerns about the application of Section 504 of the Rehabilitation Act should be addressed to the Section 504 Coordinator/ Executive Director of Student Support Services at (757) 263-1980, 2512 George Mason Drive, Virginia Beach, Virginia, 23456 or the Section 504 Coordinator at the student’s school. For students who are eligible or suspected of being eligible for special education or related services under IDEA, please contact the Office of Programs for Exceptional Children at (757) 263-2400, Laskin Road Annex, 1413 Laskin Road, Virginia Beach, Virginia, 23451.

Alternative formats of this publication which may include taped, Braille, or large print materials are available upon request for individuals with disabilities. Call or write The Department of Teaching and Learning, Virginia Beach City Public Schools, 2512 George Mason Drive, P.O. Box 6038, Virginia Beach, VA 23456-0038. Telephone 263-1070 (voice); fax 263-1424; 263-1240 (TDD) or email at Theresa.Dougherty@vbschools.com.

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