



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.

- 037 Create a professional document (e.g., brochure, annual report, newsletter, catalog) demonstrating established principles of design in desktop publishing.
- 038 Import text and graphics from other sources (e.g., Internet, CD, DVD, scanner, digital camera and other files).
- 039 Integrate a variety of software applications into a word processing document.
- 040 Create an online form with a word processing program.

Using Advanced Spreadsheet Functions

- 041 Compare features and functions of various spreadsheet programs to determine the best software for an individual's or organization's needs.
- 042 Create a spreadsheet using advanced formatting features and graphics.
- 043 Use advanced formulas and functions (e.g., @PMT, @PV, @VLOOKUP, @HLOOKUP, @FV, @COUNT, @COUNTIF, @IF/THEN, relative and absolute referencing).
- 044 Use advanced tools (e.g., macros, scenarios, auditing, pivot table reports, object linking and embedding).
- 045 Create and reformat complex graphs.
- 046 Analyze, interpret, and present data.
- 047 Sort and filter spreadsheet data.
- 048 Import and export data to and from a spreadsheet.
- 049 Create templates.
- 050 Organize a large workbook with multiple worksheets.
- 051 Apply linear programming to optimize spreadsheet results.

Using Advanced Database Functions

- 052 Evaluate features of various database programs to determine the best software for an individual's or organization's needs.
- 053 Plan, design, and create a database file with advanced features.
- 054 Generate customized reports and forms, using advanced formatting features and graphics.
- 055 Create and conduct advanced queries to access information.
- 056 Import and export data to and from a database.

Enhancing Multimedia Presentations

- 057 Research and organize information to build a multimedia presentation with advanced features.
- 058 Plan and build multimedia presentations, using advanced features.
- 059 Utilize templates and master slides in the design of presentations.
- 060 Enhance multimedia presentation layout, according to principles of effective design.
- 061 Enhance a multimedia presentation with advanced features (e.g., color, transitions, animations, timing, backgrounds, graphics, charts, graphs).
- 062 Incorporate visual elements (e.g., scanned images, digital photography, video images, and streaming, downloadable images from the Internet).
- 063 Incorporate audio elements (e.g. music and voice recordings, digital audio [.wav] files, streaming, MIDI interface files).
- 064 Integrate a variety of software applications into a multimedia presentation.
- 065 Proofread and edit multimedia presentations.
- 066 Create handouts and other visuals (e.g., transparencies, speaker's notes, outline, CD/DVD, memory key).
- 067 Deliver a multimedia presentation, according to the principles of effective communication.
- 068 Critique the clarity and effectiveness of advanced multimedia presentations.

Producing Desktop Published Documents for Print and Electronic Distribution

- 069 Gather or create documents and graphics for use in various advanced desktop publishing products, such as flyers, brochures, and newsletters.

- 070 Determine appropriate desktop publishing products based upon the purpose of the publication, intended audience, output format, and time and cost constraints.
- 071 Apply principles of design, layout and typography.
- 072 Design a layout for ease of readability and attractiveness (e.g., white space, column position and spacing, page margins, graphic text placements).
- 073 Enhance appearance of document using desktop features (e.g., graphic boxes, lines, illustrations, images).
- 074 Create templates or master pages.
- 075 Create a variety of multi-page and multi-column documents in a format appropriate for electronic distribution.
- 076 Demonstrate use of keyboard shortcuts.
- 077 Incorporate original/imported text, graphics, tables, charts and audio/visual elements from a variety of sources.
- 078 Convert a document to electronic format (e.g., PDF files, XPS format, and professional layout).

Designing and Producing Web Pages

- 079 Evaluate the various methods of Web page creation (e.g., integrated software packages, Web design software, Internet browsers, and programming languages).
- 080 Research and organize information for a Web site.
- 081 Compare the features and functions associated with the Internet, intranets and extranets.
- 082 Plan and create a Web site applying design features (e.g., ruled lines, lists, headings, backgrounds, frames, tables).
- 083 Apply Web page design features (e.g., ruled lines, lists, headings, background, frames, and tables).
- 084 Create hypertext links to other pages or sites.
- 085 Proofread, edit, and test a Web site for functionality.
- 086 Critique a Web site according to accepted Web design principles.
- 087 Develop a plan for posting, updating, and maintaining a Web site.
- 088 Describe various methods of publicizing and promoting a new Web site.

Maintaining, Managing, and Troubleshooting Systems

- 089 Evaluate workstations, equipment, software, and supplies for design, layout, and purchase.
- 090 Maintain and upgrade workstations, equipment, software, and supplies.
- 091 Analyze software problems to obtain assistance via electronic and hard-copy references and documentation.
- 092 Troubleshoot hardware problems (e.g., proper connections, scanner, printer, speakers, and auxiliary drives).
- 093 Explore tools (e.g., defragmenter, file compression, scan disk, diagnostic) to manage the operating system.
- 094 Demonstrate (or explain) how to install software and customize defaults.
- 095 Backup/restore programs and data files.
- 096 Investigate advanced desktop configuration techniques (e.g., control panel).
- 097 Scan storage devices and equipment for viruses and spyware, and disinfect as needed.
- 098 Install peripherals (e.g., scanner, digital camera, fax machine, modem).
- 099 Comply with safety and ergonomic precautions associated with computer use.
- 100 Compare operating systems (e.g., Windows, Macintosh, UNIX, Linux).
- 101 Investigate security issues related to Internet technology (e.g., virus, firewalls, spam, system backup, passwords, wireless, and data encryption).

Executing Networking Activities

- 102 Identify network types and topologies (e.g., LAN, WAN, bus, ring, star).
- 103 Identify components of a local area network.
- 104 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.

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For further information please call (757) 263-1070.

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, 5-7, 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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CHARTING THE COURSE

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