



VIRGINIA BEACH CITY PUBLIC SCHOOLS
CHARTING THE COURSE

***Department of Teaching & Learning
Parent/Student Course Information***

***Communications Technology Program
Computers and Communications Technology
(TE 8418)
Grades 9 - 12
One-half Credit, One Semester***

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

The courses in engineering and technology provide opportunities for students to acquire skills and knowledge necessary for technological literacy, entry-level careers and lifelong learning. Students learn Virginia's 22 Workplace Readiness Skills within the content area. Those who are completing a two-year sequence have the opportunity to verify their knowledge of the workplace readiness skills through an industry assessment. Students obtain knowledge and skills in desktop publishing, computer systems, lasers, and audio/video productions. Activities include computer graphics; digital photography; multi-media communications; and printing on various materials. This course is designed for students who are seeking careers in information technology, commercial art, video production and electronic publishing.

CERTIFICATION

Students successfully completing the Communications Technology Program of Study will be preparing for the Adobe Cloud Photoshop CS6 or Illustrator certification or the NOCTI Design Industry Credential.

STUDENT ORGANIZATION

Technology Student Association (TSA) is a co-curricular organization for all students enrolled in engineering and technology courses. Students are encouraged to be active members of their youth organization to develop leadership and teamwork skills and to receive recognition for their participation in local, regional, state and national activities.

PREREQUISITE

None

OPTIONS FOR NEXT COURSE

Graphic Communications Technology

REQUIRED STUDENT TEXTBOOK

Graphic Communications

COMPETENCIES FOR COMPUTERS AND COMMUNICATIONS

Demonstrating Workplace Readiness Skills: Personal Qualities and Abilities

- 1 Demonstrate creativity and innovation.
- 2 Demonstrate critical thinking and problem solving.
- 3 Demonstrate initiative and self-direction.
- 4 Demonstrate integrity.
- 5 Demonstrate work ethic.

Demonstrating Workplace Readiness Skills: Interpersonal Skills

- 6 Demonstrate conflict-resolution skills.
- 7 Demonstrate listening and speaking skills.
- 8 Demonstrate respect for diversity.
- 9 Demonstrate customer service skills.
- 10 Collaborate with team members.

Demonstrating Workplace Readiness Skills: Professional Competencies

- 11 Demonstrate big-picture thinking.
- 12 Demonstrate career- and life-management skills.
- 13 Demonstrate continuous learning and adaptability.
- 14 Manage time and resources.
- 15 Demonstrate information-literacy skills.
- 16 Demonstrate an understanding of information security.
- 17 Maintain working knowledge of current information-technology (IT) systems.
- 18 Demonstrate proficiency with technologies, tools, and machines common to a specific occupation.
- 19 Apply mathematical skills to job-specific tasks.
- 20 Demonstrate professionalism.
- 21 Demonstrate reading and writing skills.
- 22 Demonstrate workplace safety

Examining All Aspects of an Industry

- 23 Examine aspects of planning within an industry/organization.
- 24 Examine aspects of management within an industry/organization.
- 25 Examine aspects of financial responsibility within an industry/organization.
- 26 Examine technical and production skills required of workers within an industry/organization.
- 27 Examine principles of technology that underlie an industry/organization.
- 28 Examine labor issues related to an industry/organization.
- 29 Examine community issues related to an industry/organization.
- 30 Examine health, safety and environmental issues related to an industry/organization.

Addressing Elements of Student Life

- 31 Identify the purposes and goals of the student organization.
- 32 Explain the benefits and responsibilities of membership in the student organization as a student and in professional/civic organizations as an adult.
- 33 Demonstrate leadership skills through participation in student organization activities, such as meetings, programs and projects.
- 34 Identify Internet safety issues and procedures for complying with acceptable use standards.

Commented [CCH1]:

Exploring Work-Based Learning

- 35 Identify the types of work-based learning (WBL) opportunities.
- 36 Reflect on lessons learned during the WBL experience.
- 37 Explore career opportunities related to the WBL experience.
- 38 Participate in a WBL experience, when appropriate.

Introducing Communication Systems

- 39 Define communication.
- 40 Explain ethics as they relate to communication systems.
- 41 Identify technology used in communication.
- 42 Identify types of communication.
- 43 Define digital communication technology.
- 44 Research the history and development of various types of communication systems.
- 45 Analyze the impact of communication systems.
- 46 Analyze communication systems problems/challenges.
- 47 Describe elements of design.
- 48 Describe principles of design.
- 49 Explain the design process.
- 50 Identify the components of a storyboard.
- 51 Create a storyboard for a simple animation.
- 52 Generate a simple, two-dimensional animation.
- 53 Generate a simple, digital, three-dimensional model.
- 54 Modify a simple, digital, three-dimensional model.
- 55 Animate a simple, digital, three-dimensional model.

Exploring Imaging Technology

- 56 Identify various systems for capturing and transmitting images.
- 57 Examine the theories and properties of light.
- 58 Explore photographic and other imaging media.
- 59 Incorporate composition elements.
- 60 Capture a digital image.
- 61 Manipulate digital images.
- 62 Mount a photograph.

Examining Graphic Production

- 63 Explain graphic production.
- 64 Describe the different methods of graphic production.
- 65 Prepare images for output.
- 66 Identify the different types of coding used to create data communication systems.
- 67 Identify basic concepts of developing a web page.
- 68 Create a web page.
- 69 Describe channels for delivering web communication.
- 70 Identify elements of typography.
- 71 Produce a finished graphic product.

Examining Video and Media Technology

- 72 Describe the concepts of audio and video communication.
- 73 Describe audio and video production equipment and terminology.

- 74 Describe the production process.
- 75 Produce a video or an animation, using the production process.
- 76 Output video to analog or digital format.

Exploring Communications Careers and Advancement

- 77 Describe careers related to communication systems.
- 78 Create a portfolio including work from Communication Systems.

Aaron C. Spence, Ed.D., Superintendent
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Produced by the Department of Teaching and Learning.
For further information, please call (757) 263-1070.

Notice of Non-Discrimination Policy

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Title IX Notice: Complaints or concerns regarding discrimination on the basis of sex or sexual harassment should be addressed to the Title IX Coordinator, at the VBCPS Office of Student Leadership, 641 Carriage Hill Road, Suite 200, Virginia Beach, 23452, (757) 263-2020, Mary.Dees@vbschools.com (student complaints) or the VBCPS Department of School Leadership, 2512 George Mason Drive, Municipal Center, Building 6, Virginia Beach, Virginia, 23456 (757) 263-1088, Elizabeth.Bryant@vbschools.com (employee complaints). Additional information regarding Virginia Beach City Public Schools' policies regarding discrimination on the basis of sex and sexual harassment, as well as the procedures for filing a formal complaint and related grievance processes, can be found in School Board Policy 5-44 and School Board Regulations 5-44.1 (students), School Board Policy 4-4 and School Board Regulation 4-4.3 (employees), and on the School Division's website at [Diversity, Equity and Inclusion/Title IX](#). 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, Plaza Annex/Family and Community Engagement Center, 641 Carriage Hill Road, Suite 200, Virginia Beach, VA 23452.

The School Division is committed to providing educational environments that are free of discrimination, harassment, and bullying. Students, staff, parents/guardians who have concerns about discrimination, harassment, or bullying should contact the school administration at their school. Promptly reporting concerns will allow the school to take appropriate actions to investigate and resolve issues. School Board Policy 5-7 addresses non-discrimination and anti-harassment, Policy 5-44 addresses sexual harassment and discrimination based on sex or gender. Policy 5-36 and its supporting regulations address other forms of harassment.

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 Charles.Hurd@vbschools.com.

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