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 21 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. This semester course is designed to be the third technology education experience at the middle school level. Students experience hands-on activities that help them use a systems approach to solve problems and understand technology. Working in teams or groups, students rotate through a number of activities and simulations. They operate systems, construct models and use computers to describe or control systems. A case study of a major technological advancement helps students study the impact of technology on their world and future careers. They explore STEM fields by following a modular program to facilitate the study of technology.

**CERTIFICATION**
None

**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**
Selected High School Technology Education courses.

**REQUIRED STUDENT TEXTBOOK**
None
**COMPETENCIES FOR TECHNOLOGY EDUCATION 8**

### Demonstrating Workplace Readiness Skills: Personal Qualities and People Skills
1. Demonstrate positive work ethic.
2. Demonstrate integrity.
3. Demonstrate teamwork skills.
4. Demonstrate self-representation skills.
5. Demonstrate diversity awareness.
6. Demonstrate conflict-resolution skills.
7. Demonstrate creativity and resourcefulness.

### Demonstrating Workplace Readiness Skills: Professional Knowledge and Skills
8. Demonstrate effective speaking and listening skills.
9. Demonstrate effective reading and writing skills.
10. Demonstrate critical-thinking and problem-solving skills.
11. Demonstrate healthy behaviors and safety skills.
12. Demonstrate an understanding of workplace organizations, systems and climates.
13. Demonstrate lifelong-learning skills.
14. Demonstrate job-acquisition and advancement skills.
15. Demonstrate time-, task- and resource-management skills.
16. Demonstrate job-specific mathematics skills.
17. Demonstrate customer-service skills.

### Demonstrating Workplace Readiness Skills: Technology Knowledge and Skills
18. Demonstrate proficiency with technologies common to a specific occupation.
19. Demonstrate information technology skills.
20. Demonstrate an understanding of Internet use and security issues.
21. Demonstrate telecommunications skills.

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

### Define technology.
26. Identify examples of technology.
27. Describe technological inventions that have been important to society.
28. Research careers and the technologies used in them.

### Solving Problems
29. Demonstrate safe use of tools and equipment.
30. Use measuring tools.
31. Use sketching and drawing tools.
32. Describe the problem-solving process.

### Examining Resources of Technology
33. Identify resources used in technology.
34. Identify the six simple machines and give examples of each.
35. Identify the characteristics/properties of materials.
Define energy.

Examining Systems
37 Illustrate how processes change inputs to outputs in any system.
38 Identify the parts of a system within a device.
39 Solve technological problems, using resources including tools/machines, materials, creativity and knowledge from other fields.

Identifying the Designed World
40 Identify the designed-world systems.
41 Describe energy and power systems.
42 Describe medical technology systems.
43 Describe agricultural and related biotechnologies systems.
44 Describe information and communication systems.
45 Describe construction systems.
46 Describe transportation systems.
47 Describe manufacturing systems.
48 Investigating the Impacts of Technology
49 Identify emerging technologies.
50 Predict future technological changes.
51 Describe how society affects technology and technology affects society.
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, 4-6, 4-43, 5-7, 5-19, 5-20, 5-44, 6-7, 7-48, 7-49, 7-57 and Regulations 4-4.1, 4-4.2, 4-6.1, 4-43.1, 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/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 23436-0038. Telephone 263-1070 (voice); fax 263-1424; 263-1240 (TDD) or email Charles.Hurd@VBSchools.com.

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