



Department of Teaching & Learning
Parent/Student Course Information

Technology Education 6

(TE 8481)

Grade 6

One-quarter Credit, One Nine Weeks

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 gain an awareness of Virginia's 22 Workplace Readiness Skills within the content area. This nine-week exploratory course introduces students to the elements of technology, including the design process, tools and machines, material processes and project-based engineering. Students solve STEM-related problems and create solutions with an emphasis on safety.

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

Technology Education 7

REQUIRED STUDENT TEXTBOOK

None

COMPETENCIES FOR TECHNOLOGY EDUCATION 6

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

Addressing Elements of Student Life

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

Exploring Work-Based Learning

- 27 Identify the types of work-based learning (WBL) opportunities.
- 28 Reflect on lessons learned during the WBL experience.
- 29 Explore career opportunities related to the WBL experience.
- 30 Participate in a WBL experience, when appropriate.

Introducing Technology

- 31 Explain technology.
- 32 Identify examples of technology throughout history.
- 33 Describe inventions that have been important to society.
- 34 Research careers and the technologies used in them.

Investigating the Impacts of Technology

- 35 Describe how society affects technology and technology affects society.
- 36 Identify emerging technologies.
- 37 Predict future technological changes.

Examining Resources of Technology

- 38 Identify resources used in technology.
- 39 Identify the six simple machines.
- 40 Differentiate between types of materials.
- 41 Demonstrate safe use of a minimum of three tools and/or pieces of equipment.
- 42 Demonstrate various types of measuring.
- 43 Create sketches and drawings.

Solving Problems

- 44 Describe a problem-solving process.
- 45 Apply a problem-solving process.

Examining Systems

- 46 Illustrate how processes change inputs to outputs in any system.
- 47 Identify the parts of a system within a device.

Introducing Microcontrollers* Optional

- 48 Explain the coding system used for the microcontroller.
- 49 Demonstrate the use of a microcontrolled robot.

Identifying the Designed World

- 50 Identify the designed-world areas.
- 51 Describe the energy and power area of technology.
- 52 Describe the medical area of technology.
- 53 Describe the agricultural and related biotechnologies area of technology.
- 54 Describe the information and communication area of technology.
- 55 Describe the architecture and construction area of technology.
- 56 Describe the transportation area of technology.
- 57 Describe the manufacturing area of technology.

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.

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August 2021