



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

*Technology Education 8*  
*(TE 8483)*  
*Grade 8*  
*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 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.

36 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.

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