TECHNOLOGY EDUCATION

OVERVIEW

Technology Education in Oklahoma is an instructional program that provides young men and women (Grades 6-10) with daily, hands-on exploratory experiences and insights into technology and career opportunities so that they can make meaningful occupational and educational choices.

Technology Education capitalizes on the individual's potential for reasoning and problem solving, for imagining and creating, and for constructing and expressing through the use of tools and materials related to technology. It develops content and experiences to contribute to the growth and development of students commensurate with their potential. Technology Education is a basic and fundamental study for all persons in regard to career explorations and educational opportunities.

Opportunities to develop and apply leadership, social, civic and technologically related skills are provided through the Technology Student Association (TSA).

All Technology Education courses are taught with each of the four Technology systems (communications, construction, manufacturing and transportation, energy and power) being designed to provide a means through which other courses such as mathematics, science, language arts and social studies can be applied in a practical manner within a technology-based situation. Teaching across the curriculum is vital to the success of a Technology Education program.

TECHNOLOGY EDUCATION

Grades 6 - 10

Standard 1: The student will define the characteristics and scope of technology in our world today.

1. Examine the evolution, application and significance of modern technology and its impact on our lives in the twenty-first century.

2. Identify the effects and reasons for commercialization of technology.

Standard 2: The student will identify the core concepts of technology systems, resources and processes including optimization and trade-off concepts.

Standard 3: The student will identify and describe the importance of technology and the relationships between and among technology and other fields.

1. Recognize and describe technology transfer from one product to another.

2. Recognize and describe inventions and innovations shared across new technologies.

Standard 4: The student will identify and differentiate the cultural, social, economic and political effects of technology.

1. Determine the impact and consequences of technology.

2. Identify and describe the rapid or gradual changes in technology and the related effects.

Standard 5: The student will recognize the effects of technology on the environment.

1. Describe technologies used to repair damage in the environment.

2. Examine ways to reduce resource use through technology.

3. Identify practices available for monitoring the environment to provide feedback for decisions.

Standard 6: The student will determine the connection between technological demands, values and interests of society and the impact of these on the environment.

Standard 7: The student will identify the history and evolution of technology techniques, measurements and resources.

Standard 8: The student will apply the technology design process to create useful products and systems.

1. Identify criteria required to determine an effective technology design process.

2. Apply reasoning, problem solving, imagining, creating and constructing design and technology tools.

Standard 9: The student will describe technological advances that enhance science and mathematics and describe how science and mathematics advance technology.

Standard 10: The student will apply problem-solving and critical thinking techniques for troubleshooting, research and development, invention and innovation and experimentation and implement these strategies as a multidisciplinary approach.

Standard 11: The student will apply creativity in developing technology products and systems.

1. Create a model to explain a solution to a problem.

2. Test and evaluate a design for improvement.

3. Identify quality controls necessary in a technology product or system process.

Standard 12: The student will apply safe and proper use of tools, machines, materials, processes and technical concepts.

Standard 13: The student will assess the impact of technology on products and systems.

1. Design and use instruments to collect data for a product.

2. Use collected data to find trends and assist in technological development.

3. Interpret and evaluate accuracy of information to determine its usefulness.

4. Synthesize data to draw conclusions regarding the effects of technology.

5. Design forecasting techniques to evaluate results of altering natural resources.

Standard 14: The student will identify and describe advances and innovation in the energy-power, biotechnology, communications, transportation, manufacturing, construction, and agriculture techniques used to improve each field.

Standard 15: The student will identify and describe energy-power, biotechnology, communications, transportation, manufacturing, construction, and agriculture technology principles necessary to create products and processes.

Standard 16: The student will identify and define how energy-power, biotechnology, communications, transportation, manufacturing, construction, and agriculture technologies apply to various occupational clusters.

Standard 17: The student will identify how technology systems are affected by energy-power, biotechnology, communications, transportation, manufacturing, construction, and agriculture.

1. Apply energy-power, biotechnology, communication, transportation, manufacturing, construction, and agriculture systems and subsystems to a model.

2. Recognize and define the purpose and uses for information skills as it relates to energy-power, biotechnology, communication, transportation, manufacturing, construction, and agriculture technologies.

Standard 18: The student will develop leadership, positive self-concepts, and individual potential in a technological society.

Standard 19: The student will explore the organization and management systems of business and industry.

Standard 20: The student will explore career opportunities to determine occupational and educational choices.

1. Examine opportunities related to specific occupations (e.g. career search software, field trips, guest speakers and hands-on activities dealing with lasers, medical, technology, fiber-optics, robotics, biotechnology, computer-aided drafting, electronics, engineering, computer literacy, microwave systems, and other technology systems.)

2. Examine educational opportunities related to future careers (e.g. additional career technology classes at the secondary level in the comprehensive high school and area career technology centers, junior or four-year universities, postsecondary technical institutes, five-and six-year universities, military training, private sector training, and others.)