

Springfield Public Schools
Middle School Technology Education
Major Instructional Goals
Learner Objectives

Course Description: Technology Education is a course that is designed to challenge and engage the exploratory minds. The curriculum provides project-based learning activities that relate technology to students' daily lives. It also promotes communication and collaboration by emphasizing a team approach in the instructional units. Students work cooperatively as they brainstorm, problem solve, and develop knowledge, skills and understanding of a wide range of topics. Students have hands-on activities that encourage the use of critical thinking skills while emphasizing the application of other disciplines. Prerequisite: none.

Course Rationale: As a result of participation in these explorations, students entering high school from a Technology Education program will be able to:

- Make informed career, educational, and occupational decisions based on knowledge and skills acquired and according to personal interests and aptitudes.
- Apply creative skills and critical thinking skills to problem solving.
- Apply and integrate knowledge and skills across disciplines.
- Develop creative abilities and build self-esteem.
- Use the resources of technology safely and efficiently.
- Demonstrate an understanding of technological processes and systems.
- Develop social skills while working cooperatively in teams and become self-directed life-long learners.

MAJOR INSTRUCTIONAL GOALS

- 1. Explore the use of technological advances and how they affect the quality of life in the home and workplace.**
 - a. Research and report on current technological invention or innovation.
 - b. Investigate and research the environmental impact of technology challenges and solutions.

- c. Research a technological invention or innovation and create a timeline of the historical events, importance and connection to other societies.
 - d. Analyze and evaluate problems related to technology through the use of computer simulation.
- 2. Apply the decision making process while utilizing problem solving and critical thinking skills.**
- a. Evaluate technology through the development of research questions from a variety of informational resources.
 - b. Present a technology solution using all available instructional technology components.
 - c. Analyze and evaluate real world problems using the technological problem solving method.
 - d. Apply technology problem solving methodology as it relates to the scientific discovery process.
 - e. Apply in-depth comprehension and reasoning skills through inductive processes.
 - f. Apply the use of multiple solutions from a variety of perspectives.
- 3. Model time management skills in a cooperative learning environment.**
- a. Demonstrate the ability to manage a sequence of activities with a team.
 - b. Demonstrate collaboration to interpret and analyze technical and non-technical information to correctly solve problems.
 - c. Apply communication skills in teamwork.
- 4. Develop an understanding of communications by choosing and using the appropriate media to convey ideas and become an informed citizen.**
- a. Evaluate information and technology
 - b. Maintain records of work through the use of design charts, tables and graphs.
 - c. Analyze and present results to peers.
- 5. Integrate knowledge of the academic area with Technology Education.**
- a. Interpret graphic and numeric data in the evaluation of design.
 - b. Compare and contrast the scientific method and technological method in making specific recommendations to a design problem.
 - c. Apply basic mathematical concept in design.

- d. Apply economic principles of productivity and market systems to a design problem.

6. Explore career possibilities that will contribute to meaningful occupational choices.

- a. Identify education requirements for specific careers.
- b. Analyze the labor market.
- c. Research occupational-specific courses within the following career path clusters:
 - i. Medical Technology
 - ii. Biotechnology
 - iii. Energy and Power Technology
 - iv. Information and Communications Technology
 - v. Engineering Technology
 - vi. Transportation Technology
 - vii. Manufacturing Technology
 - viii. Construction Technology