

Time Frame	CTE Objective	Essential Understandings/Questions	Essential Knowledge/Skills
1 st 9 Weeks	004 009 030 013 001 058 059 060 034 019 020 08 033 07 06 003 047 001 070 010 015	Demonstrate self-representation skills. Demonstrate effective reading and writing skills. Identify the purposes and goals of the student organization. Demonstrate lifelong-learning skills. Demonstrate positive work ethic. Explain the concept of a technological system. Distinguish between a system and a subsystem. Describe the impacts of technological systems on people, society, and the environment. Obtain information through interviews, computer databases, and media resource centers. Demonstrate information technology skills. Demonstrate an understanding of Internet use and security issues. Demonstrate effective speaking and listening skills. Identify Internet safety issues and procedures for complying with acceptable use standards. Demonstrate creativity and resourcefulness. Demonstrate conflict-resolution skills. Demonstrate teamwork skills. Conserve energy through technological modification. Demonstrate positive work ethic. Create ideas, sketches, notes, and graphics of alternative solutions. Demonstrate critical-thinking and problem-solving skills. Demonstrate time-, task-, and resource-management skills.	<u>Terms to Know</u> Technology impact on society and self. Internet safety, Information technology TSA <u>Skills</u> Apply core skills such as reading and writing. Execute research using internet technology. Exhibit safe use of internet. Manage computer files and use software. Document research using computer technology. Describe a technology system. Use library and other research skills. <u>Terms to Know</u> Technology system, input, process, output. Communication, Manufacturing, Production, Transportation, Biotechnology, Construction Technology Impacts. <u>Skills</u> Use presentation software. Identify technology systems. Speak orally to audience. Develop higher level thinking skills. Use creativity and critical thinking skills. <u>Terms to Know</u> Steps of problem solving process. Measurement, sketching, and design. Testing, analyzing, and reflection. Critical Thinking, brainstorming Work Ethic Engineering Design and factors. Prototype <u>Skills</u> Complete a task working in a team. Create a prototype using materials. Practice problem solving method to improve prototype. Apply core math and science skills. Understand and apply important concepts of engineering design.

2 nd 9 Weeks	035	Convey three-dimensional objects on a two-dimensional surface, using conventional and computer technology.	<u>Terms to Know</u> Technical Drawing, Orthographic projection Computer Aided Design, Working Drawing Tool safety, material processing production, production plan, bill of materials, Research and development Design Process <u>Skills</u> Complete a working drawing to scale. Create a prototype using materials. Practice problem solving method to improve prototype. Apply core math and science skills. Test and synthesize data to draw conclusions. Use tools and pass safety test. Process materials
	069	Gather information about the technological problem to be solved.	
	041	Select materials for specific applications according to their properties.	
	053	Analyze how the product works, using mathematical and scientific concepts.	
	042	Recycle materials for useful means.	
	072	Build a prototype of the best solution.	
	071	Select the best solution by applying knowledge of mathematics, science, technology, and other subjects.	
	040	Use tools, machines, and processes to change materials.	
	043	Apply safety procedures and practices.	
	3 rd 9 Weeks	068	
073		Evaluate the solution by comparing it with the problem statement.	
061		Analyze a problem whose solution uses computer or electronic controls.	
064		Construct a model of the application.	
065		Control the application with computers or electronics.	
063		Design the computer- or electronics-controlled application to be used for solving the problem.	
046		Control the use of energy with mechanical, electrical, fluidic, and thermal systems.	
021		Demonstrate telecommunications skills.	
037		Identify career opportunities in a variety of technological systems.	
		<u>Terms to Know</u> Interests, values, and skills. Careers, career clusters <u>Skills</u> Identify interests, value, and skills Use computer to access to explore careers.	

4 th 9 Weeks	067	Identify the needs and wants of people in school, home, community, or world that could be solved through technological change.	<u>Terms to Know</u> Invention, Innovation, Product development Consumer product
	022	Examine aspects of planning within an industry/organization.	<u>Skills</u> Work individually and cooperatively in groups to apply design process to create a new product.
	028	Examine community issues related to an industry/organization.	
	025	Examine technical and production skills required of workers within an industry/organization.	
	048	Identify ways that consumer products have impacted people, society, and the environment.	<u>Terms to Know</u> Market survey, research and development Target market, CAD, market survey.
	049	Select a consumer product to analyze.	<u>Skills</u>
	054	Identify an innovation that would improve the product.	Use computers to create a graphic design. Invent or innovate a new product. Use digital media to market a product.
	051	Record information about the product, using computer technology.	Design and develop product. Use computers to design a product.
	036	Use various technologies to prepare and present information regarding technological solutions.	
	050	Gather product information.	
	052	Present information about the product, using computer technology.	<u>Terms to Know</u> Manufacturing, production, profit, working drawings, bill of materials
	035	Convey three-dimensional objects on a two-dimensional surface, using conventional and computer technology.	<u>Skills</u> Use tools and machines to develop product. Form a company using teamwork. Demonstrate completed product. Calculate profit and loss. Produce multi media marketing tool.
	055	Draw illustrations or construct models of the improved product.	
	012	Demonstrate an understanding of workplace organizations, systems, and climates.	
	040	Use tools, machines, and processes to change materials.	
	012	Demonstrate an understanding of workplace organizations, systems, and climates.	
	016	Demonstrate job-specific mathematics skills.	
057	Report results of data collection, product analysis, and product improvement.		
074	Present the new or improved product to others.		