North Carolina CTE

Technological Design TE12

Understand research methods in a global society to create a well-informed, creative, innovative, technologically literate citizen using a STEM approach. 1.00	**1.01** Understand emerging technologies. 1.01
	1.02 Evaluate fundamentals of STEM. 1.02
	1.03 Understand research, design and development. 1.03
	1.04 Evaluate universal design. 1.04
Implement a management process to plan, design, create, analyze and refine a product through modeling. 2.00	**2.01** Understand the impact of product design and development. 2.01
	2.02 Apply the design process to solve a technological problem. 2.02
	2.03 Create using models and plans. 2.03
Apply Systems Thinking and the Universal Systems Model to meet criteria and constraints. 3.00	**3.01** Apply systems thinking through compromise and optimization by analyzing a system. 3.01
	3.02 Evaluate communication systems. 3.02
	3.03 Assess complex systems thinking. 3.03
	3.04 Understand patents, criteria, constaints and other design requiements . 3.04
Understand negative and positive impacts technology has on society and the environment. 4.00	**4.01** Understand technology trade-offs and transfers. 4.01
	4.02 Examine how technology impacts the community. 4.02
	4.03 Evaluate how technology impacts the environment. 4.03
Understand the areas of the Design World using the engineering design process to plan, organize, develop and control productivity to maximize efficiency. 5.00	**5.01** Analyze types of bio-related and agricultural technologies. 5.01
	5.02 Analyze types of energy, power and transportation. 5.02
	5.03 Maximize resources in lean manufacturing. 5.03
	5.04 Design using sustainable construction procedures. 5.04