North Carolina CTE

Technology Engineering and Design: TE11

Understand that most inventions and innovations are the result of an evolutionary process and how a series of refinements leads to an improvement in a technological device. TE11 1.00	**1.01** Understand that most inventions and innovations are the result of an evolutionary process. TE11 1.01
	1.02 Understand how new technologies are used to create new processes and products. TE11 1.02
	1.03 Classify the factors that impact the demand and design of technology. TE11 1.03
	1.04 Explain the research and development process as a problem-solving approach. TE11 1.04
Understand how technology changes history. TE11 2.00	**2.01** Analyze the historic significance and interaction of technological advancements within society and the environment. TE11 2.01
	2.02 Understand the evolutionary process of technological development throughout history. TE11 2.02
Apply the universal systems model to troubleshoot technological systems. TE11 3.00	**3.01** Differentiate the nine core technologies and their relationship within larger systems and products. TE11 3.01
	3.02 Analyze a functional system using the Universal Systems Model. TE11 3.02
	3.03 Analyze the function of a product by reverse engineering. TE11 3.03
	3.04 Apply procedures to troubleshoot a product and create a diagram and/or simulation. TE11 3.04
Analyze the engineering design process as a systematic, iterative problem solving method that produces solutions to meet human wants and desires. TE11 4.00	**4.01** Apply design principles when generating solutions to problems. TE11 4.01
	4.02 Apply the engineering design process to produce solutions to problems. TE11 4.02
	4.03 Interpret criteria and constraints to develop solutions to problems. TE11 4.03
	4.04 Apply procedures to construct models that meet design solutions. TE11 4.04
	4.05 Analyze data used in the engineering design process. TE11 4.05

	4.06 Propose an engineering design solution to the intended audience. TE11 4.06
Analyze technology relationships to the designed world. TE11 5.00	**5.01** Analyze energy and power systems. TE11 5.01
	5.02 Analyze types of manufacturing and the properties of materials problems. TE11 5.02
	5.03 Classify the types of construction and the factors that affect the design of structures. TE11 5.03
	5.04 Classify information and communication systems and their interaction with society. TE11 5.04
	5.05 Explain the relationship between agriculture and transportation. TE11 5.05
	5.06 Explain the technologies integrated in telemedicine. TE11 5.06