Course Title: Tech Studies 1 edits Course Number: 8600510			
NGSSS Benchmark	**Content Focus**	**Number of Points Possible**	**Suggested Cognitive Complexity** *(per CPALMS)*
Reporting Category 1: **Demonstrate an understanding of the characteristics and scope of technology.**			
01.01	Discuss the nature and development of technological knowledge and processes. STL.1.J	1	1 level 1 or 1 level 2
01.02	Explain the rapid increase in the rate of technological development and diffusion. STL.1.K	1	1 level 2
01.04	Discuss current technological developments are/were driven by profit motive and the market. STL.1.M	1	1 level 2
Reporting category total		**3**	
Reporting Category 2: **Demonstrate an understanding of the core concepts of technology.**			
02.02	Define technological systems, which are the building blocks of technology and are embedded within larger technological, social, and environmental systems.	1	1 level 2
02.04	Identify resources involving trade-offs between competing values, such as availability, cost, desirability, and waste.	1	~~1 level 2 or~~ 1 level 3
02.06	List strategies for optimizing a technological process or methodology of designing or making a product, dependent on criteria and constraints.	1	1 level 2
02.08	Describe a quality control process to ensure that a product, service or system meets established criteria.	1	1 level 2
Reporting category total		**4**	
Reporting Category 3: **Demonstrate an understanding of the relationships among technologies and the connection between technology and other fields of study.**			
03.02	Identify technological innovation resulting when ideas, knowledge, or skills are shared within a technology, among technologies, or across other fields.	1	1 level 2
03.04	Identify technological progresses that promote the advancement of science and mathematics.	1	1 level 2
Reporting category total		**2**	

Reporting Category 4: **Demonstrate an understanding of the cultural, social, economic, and political effects of technology.**			
04.01	Identify changes caused by the use of technology ranging from gradual to rapid and from subtle to obvious.	1	1 level 2

04.03	Identify ethical considerations important in the development, selection, and use of technologies.	1	1 level 2
04.04	List the cultural, social, economic, and political changes caused by the transfer of a technology from one society to another.	1	1 level 2
Reporting category total		**3**	

Reporting Category 5: Demonstrate an understanding of the effects of technology on the environment

05.01	Select technologies to conserve water, soil, and energy through such techniques as reusing, reducing and recycling.	1	1 level 2
05.02	List trade-offs of developing technologies to reduce the use of resources.	1	1 level 2
Reporting category total		**2**	

Reporting Category 6: Demonstrate an understanding of the role of society in the development and use of technology.

06.01	Investigate how different cultures develop their own technologies to satisfy their individual and shared needs, wants, and values	1	1 level 2
06.03	Identify a number of different factors, such as advertising, the strength of the economy, goals of a company, and the latest fads as contributors to shaping the design of and demand for various technologies.	1	1 level 2
Reporting category total		**2**	

Reporting Category 7: Demonstrate an understanding of the influence of technology on history.

07.04	Define the Iron Age as the use of iron and steel as the primary materials for tools	1	1 level 1
07.05	Define the Middle Ages and its development of many technological devices that produced long-lasting effects on technology and society.	1	1 level 2
07.06	Define the Industrial Revolution and the development of continuous manufacturing, sophisticated transportation and communication systems, advanced construction practices, and improved education and leisure time.	1	1 level 2
07.07	Define the Information Age and its placement of emphasis on the processing and exchange of information.	1	1 level 1
Reporting category total		**4**	

Reporting Category 8: Demonstrate an understanding of the attributes of design.

08.01	Recognize the design process; including defining a problem, brainstorming, researching and generating ideas, identifying criteria and specifying constraints, exploring possibilities, selecting an approach, developing a design proposal, making a model or prototype, testing and evaluating the design using	1	1 level 2

	specifications, refining the design, creating or making it, and communicating processes and results.		
Reporting category total		**1**	

Reporting Category 9: **Demonstrate the abilities to apply the design process.**

11.02	List criteria and constraints and determine how these will affect the design process.	1	1 level 3
Reporting category total		**1**	

Reporting Category 10: **Demonstrate the abilities to assess the impact of products and systems.**

13.02	Synthesize data, analyze trends, and draw conclusions regarding the effect of technology on the individual, society, and the environment.	1	~~1 level 2 or~~ 1 level 3
13.03	Define assessment techniques, such as trend analysis and experimentation to make decis about the future development of technology	1	1 level 2
Reporting category total		**2**	

Reporting Category 11: **Demonstrate an understanding of and be able to select and use medical technologies.**

14.02	Discuss telemedicine and its convergence of technological advances in a number of fields including medicine, virtual presence, compu engineering, informatics, artificial intelligen robotics, materials science, and perceptual psychology.	1	1 level 2
Reporting category total		**1**	

Reporting Category 13: **Demonstrate an understanding of and be able to select and use energy and power technologies**

16.02	Categorize types of energy into major forms: thermal, radiant, electrical, mechanical, chemical, nuclear, and others.	1	1 level 2
16.04	Classify energy resources as renewable or nonrenewable.	1	1 level 2
Reporting category total		**2**	

Reporting Category 14: **Demonstrate an understanding of and be able to select and use information and communication technologies.**

17.03	Use information and communication systems to inform, persuade, entertain, control, manage, and educate.	1	1 level 1
17.04	Identify components of a communications system, including source, encoder, transmitter, receiver, decoder, storage, retrieval, and destination.	1	~~1 level 1 or~~ 1 level 2
Reporting category total		**2**	

Reporting Category 15: **Demonstrate an understanding of and be able to select and use transportation technologies.**

18.03	Discuss how transportation services and methods have led to a population that is regularly on the move.	1	1 level 2
Reporting category total		**1**	

Reporting Category 16: **Demonstrate an understanding of and be able to select and use manufacturing technologies.**

19.02	Classify materials based on their qualities as natural, synthetic, or mixed.	1	1 level 1
19.03	Classify goods as durable goods designed to operate for a long period of time, or non-durable goods designed to operate for a short period of time.	1	1 level 2
19.05	Discuss the interchangeability of parts to increase the effectiveness of manufacturing processes.	1	~~1 level 1 or~~ 1 level 2
Reporting category total		**3**	
Reporting Category 17: **Demonstrate an understanding of and be able to select and use construction technologies.**			
20.01	Define infrastructure as the underlying base or basic framework of a system.	1	1 level 1
Reporting category total		**1**	
Reporting Category 18: **Identify and apply methods of information acquisition and utilization.**			
23.01	Define terms related to computers.	1	1 level 1
23.03	Discuss advantages and disadvantages in the application of technologies.	1	1 level 2
Reporting category total		**2**	
Reporting Category 20: **Express an understanding of technological systems and their complex interrelationships.**			
26.04	Outline major historical technological developments or events.	1	1 level 1
~~26.05~~	~~Identify recent advances in technology.~~	~~1~~	~~1 level 1~~
~~26.08~~	~~Define technology.~~	~~1~~	~~1 level 1~~
Reporting category total		**1**	

Overall Percentage for Written Test = 50%
Overall Percentage for Performance Tasks:____50%_____

Course Title: Tech Studies 1
Course Number: 8600510

Overall Percentage for Performance Tasks:____50%_____

Performance Task #1	Demonstrate knowledge and perform special skills unique to the information/communication technologies. by defining, designing, developing, and evaluating a game in Alice, Gamestar Mechanic or a similar application.
Weighting Percent for this Task	50 %
Standard	08.01 Recognize the design process; including defining a problem, brainstorming researching and generating ideas, identifying criteria and specifying constraints, exploring possibilities, selecting an approach, developing a design proposal, making a model or prototype, testing and evaluating the design using specifications, refining design, creating or making it, and communicating processes and results. 08.03 Check and critique a design continually, and improve and revise the idea of the design as needed. 11.05 Develop a product or system using a design process. 34.07 Demonstrate problem-solving skills relative to the physical technologies utilizing the techniques learned in this course. 35.05 Demonstrate modern communication systems using sound and speech, symbols and codes, printed words, drawing and pictures. 35.08 Demonstrate problem-solving skills relative to the information communication technologies utilizing the techniques learned in this o
Exemplar (If applicable)	N / A
Additional Information	Portfolio to include an Alice "world", Gamestar Mechanic multi-level game, or similar. Students will require approximately 3 hours for completion of this component.
Suggested Assessment Team	CTE teachers from local site.

   Rubric:

4	Student demonstrated superior knowledge and accurately performed special skills unique to the information/communication technologies. by defining, designing, developing, and evaluating a game in Alice, Gamestar Mechanic or a similar application. 1 error or less.
3	Student demonstrated good knowledge and performed most special skills unique to the information/communication technologies. by defining, designing, developing, and evaluating a game in Alice, Gamestar Mechanic or a similar application. Less than 4 errors.
2	Student demonstrate moderate knowledge and was able to moderately perform special skills unique to the information/communication technologies. by defining, designing, developing, and evaluating a game in Alice, Gamestar Mechanic or a similar application. Less than 7 errors.
1	Student demonstrated limited knowledge and was only partially able to perform special skills unique to the information/communication technologies. by defining, designing, developing, and evaluating a game in Alice, Gamestar Mechanic or a similar application. Less than 10 errors.
0	Student was unable to demonstrate knowledge and perform special skills unique to the information/communication technologies. by defining, designing, developing, and evaluating a game in Alice, Gamestar Mechanic or a similar application.