

Course Title: Power and Energy Technology II (EDITS)			
Course Number: 8601320			
NGSSS Benchmark	Content Focus	Number of Questions	Suggested Cognitive Complexity (per CPALMS)
<i>Reporting Category 1: Concepts of Technology</i>			
04.01	Discuss the nature and development of technological knowledge and processes.	1	1 Level 1
05.02	Discuss technological systems, which are the building blocks of technology and are embedded within larger technological, social, and environmental systems.	1	1 Level 1
<i>Reporting Category Total</i>		2	
<i>Reporting Category 2: Cultural, Social, Economic, Political, and Environmental Effects of Technology</i>			
07.01	Discuss changes caused by the use of technology ranging from gradual to rapid and from subtle to obvious.	1	1 Level 1
07.02	Compare the use of technology involving weighing the trade-offs between the positive and the negative effects.	1	1 Level 1
<i>Reporting Category Total</i>		2	
<i>Reporting Category 3: Attributes of the Design Process</i>			
10.01	Describe 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 the design, creating or making it, and communicating processes and results.	2 1	2 Level 2 1 Level 2
10.03	Evaluate criteria and constraints and determine how these will affect the design process.	2 1	2 Level 1 1 Level 1
10.04	Analyze competing requirements of a design, such as criteria, constraints, and efficiency.	1	1 Level 1
<i>Reporting Category Total</i>		5 3	
<i>Reporting Category 4: Engineering Design and Applications</i>			
11.01	Investigate design principles used to evaluate existing designs, to collect data, and to guide the design process.	1	1 Level 3
11.04	Evaluate factors taken into account in the process of engineering.	1	1 Level 3
<i>Reporting Category Total</i>		6 2	
<i>Reporting Category 5: Safe Use of Tools and Equipment in Technology</i>			
17.04	Demonstrate the safe usage of appropriate tools, procedures, and operation of equipment needed to manufacture a product.	1	1 Level 1
17.05	Identify color-coding safety standards.	1	1 Level 1
17.06	Explain fire prevention and safety precautions and practices for extinguishing fires.	1	1 Level 2
17.07	Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.	1	1 Level 3
<i>Reporting Category Total</i>		4	

Reporting Category 6: Knowledge and Skills in Steam Power Energy			
20.01	Describe the operating theory and principles of steam power systems.	1	1 Level 3
20.02	Explain the uses and applications of steam power systems.	2 1	2 Level 2 1 Level 2
20.04	Describe energy and fuel sources for steam power operations.	2 1	2 Level 2 1 Level 2
Reporting Category Total		5 3	

Reporting Category 7: Knowledge and Skills in Hydraulic and Pneumatic Power Technology			
21.01	Describe the operating theory and principles of hydraulic and pneumatic power technology.	2 1	2 Level 3 1 Level 3
21.02	Explain the uses and applications of hydraulic and pneumatic power systems.	1	1 Level 3
21.04	Describe the energy sources for hydraulic and pneumatic power systems.	2 1	2 Level 2 1 Level 2
<i>Reporting Category Total</i>		5 3	

Reporting Category 8: Knowledge and Skills in Electric Power Technology			
22.01	Describe the operating theory and principles of electric power systems.	2	2 Level 3
22.02	Explain the uses and applications of electric power systems.	1	1 Level 3
22.04	Describe energy and fuel sources for electric power systems.	2 1	2 Level 2 1 Level 2
<i>Reporting Category Total</i>		5 4	

Reporting Category 9: Knowledge and Skills in Solar and Fuel Cell Technology			
23.01	Describe the operating theory and principles of solar cell and fuel cell power technology.	1	1 Level 3
23.02	Explain the uses and applications of solar cell and fuel cell power technology.	1	1 Level 3
23.04	Describe the energy and fuel sources for solar cell and fuel cell power systems.	2 1	2 Level 2 1 Level 2
<i>Reporting Category Total</i>		4 3	

Reporting Category 10: Knowledge and Skills in Nuclear Power Technology			
24.01	Describe the operating theory and principles of nuclear power systems.	1	1 Level 3
24.02	Explain the uses and applications of nuclear power systems.	2 1	2 Level 2 1 Level 2
24.04	Describe energy and fuel sources for nuclear power systems.	2 1	2 Level 2 1 Level 2
<i>Reporting Category Total</i>		5 3	

Reporting Category 11: Problem Solving, Research, and Development in Technology			
12.03	Differentiate between technological and non-technological problems, and identify which problems can be solved using technology.	1	1 Level 3
<i>Reporting Category Total</i>			1

Overall Percentage for Written Test: ___100%___

Overall Percentage for Performance Tasks: ___0%___