TEST 2 REFLECTIONS

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1) How and why the test demonstrates your work toward one, or more, of the course

learning objectives. Be specific on the course objectives you decide to mention.

This test we had to use what we learned about rankine cycles. We created P-V and T-S diagrams to layout the cycles. We also create our cycle diagram with equations on what we were solving for this. This test allowed us to see a real world problem and how to work out calculations for a malfunctions system. We can then use those calculation to either fix or buy new equipment for the plant.

2) How your test compares against the available solution. State the mistakes you made

and what you will do next time to avoid making same mistakes. Please point out exactly

where you made the mistake, say why you made the mistake, and how you should have

done it. If you were taking this test again, what advice would you give yourself to ensure

that you had a successful test?

Question 1 I was on the right track, my diagrams are correct and some of the solution is correct. After reviewing the solution for question, I did have zero originally but I second guess myself because I thought it was wrong. Zero answers always throw me off and I think I do something wrong. I did make diagrams that match what is on the test. The rest of my answers are very close to what the test list for answers. Overall, minus a few mistakes I feel I had a pretty successful test. I just need to be more confident when I see zero answers.

3) What your grade should be. Base it on the writing rubric provided in the test and the

correctness of your solution. What are the strengths and weaknesses of your test?

See Below

Problem solution rubric

		Exceeds Standard	Meets Standard	Approaches Standard	Needs Attention
		4	3	2	1
		10 points	7 points	4 points	0 points
1.	Purpose	The purpose of the section to be	The purpose of the section to be	The purpose of the section to be	The purpose of the section to be
	59/	answered is clearly identified and	answered is identified, but is stated	answered is partially identified,	answered is erroneous or
	376	stated.	in a somewhat uncrear manner.	manner.	inclevant.
2.	Drawings & Diagrams	Clear and accurate diagrams are	Diagrams are included and are	Diagrams are included and are	Needed diagrams are missing OR
	100/	included and make the section	labeled neatly and accurately.	labeled.	are missing important labels.
	10%	are labeled neatly and accurately			
3	Sourcos	Several reputable background	A few reputable background	A few background sources are	Rackground sources are sited
5.	Sources	sources were used and cited	sources are used and cited	used and cited correctly, but some	incorrectly.
	5%	correctly.	correctly.	are not reputable sources.	
4.	Design considerations	Design is carried out with	Design is generally carried out	Design is carried out with some	Assumptions, safety and cost
	(assumptions, safety, cost, etc)	applicable assumptions and full	with assumptions and attention to	assumptions and some attention to	were ignored in the design.
	10%	attention to safety and cost, etc.	safety, cost, etc.	safety, cost, etc.	
5.	Data and variables	All data and variables are clearly	All data and variables are clearly	Most data and variables are clearly	Data and variables are not
		described with all relevant details.	described with most relevant	described with most relevant	described OR the majority lack
	5%		details.	details.	sufficient detail.
6.	Procedure	Procedure is described in clear	Procedure is described in clear	Procedure is described in clear	Procedure is not described in
	25%	complete and easy to understand	in a complete short paragraph.	complete short paragraph but it is	clear steps at all.
		short paragraph.	and compressions paragraphic	difficult to understand.	
7.	Calculations	All calculations are shown and	Some calculations are shown and	Some calculations are shown and	No calculations are shown OR
		the results are correct and labeled	the results are correct and labeled	the results labeled appropriately.	results are inaccurate or
	20%	appropriately. The units of all	appropriately.		mislabeled.
8.	Summary	Summary describes the design.	Summary describes the design and	Summary describes the design.	No summary is written.
	,	the relevant information and some	some relevant information.		· · · · · · · · · · · · · · · · · · ·
	5%	future implications.			
9.	Materials	All materials used in the design	Almost all materials used in the	Most of the materials used in the	Many materials are described
	59/	are clearly and accurately	design are clearly and accurately	design are clearly and accurately	inaccurately OR are not described
10	3 70 Analysis	The design is discussed and	The design is discussed and	The design is discussed and	at an. The design is not discussed and
10.	ruary sta	analyzed. Argumentative	analyzed. Argumentative	analyzed. No argumentative	analyzed.
	10%	predictions are made about what	predictions are made about what	predictions are made about what	-
		might happen in case of change in	might happen in case of change in	might happen in case of change in	
		the operation and how the design	the operation.	the operation and how the design	
		courd be change.		could be change.	

WRITING RUBRIC

Purpose	0.5/10.0 out of 0.5/10.0
Drawings	1.0/10.0 out of 1.0/10.0
Sources	1.0/10.0 out of 1.0/10.0
Design considerations	1.0/10.0 out of 1.0/10.0
Data and variables	0.5/10.0 out of 0.5/10.0
Procedure	2.0/10.0 out of 2.0/10.0
Calculations	2.0/10.0 out of 2.0/10.0
Summary	0.5/10.0 out of 0.5/10.0
Materials	0.5/10.0 out of 0.5/10.0
Analysis	1.0/10.0 out of 1.0/10.0
TOTAL	10.0/10.0 out of 10.0/10.0

PROBLEM 1)

- P-v and T-s diagrams
 1/10 out of 1/10
- 2. Realize that some states are not needed 1/10 out of 1/10
- 3. State calculations (at least 11 of them) 2/10 out of 1.5/10
- 4. <u>Calculate "y" and get y=0 1/10 out of .5/10</u>
- 5. <u>Calculate "z" 1/10 out of 1/10</u>
- 6. <u>Calculate deltaT water 1/10 out of 1/10</u>
- 7. Thermal efficiency (Wnet & Qin) 2/10 out of 1.5/10
- 8. Final results 1/10 out of .75/10

TOTAL 10/10 out of 8.25/10

PROBLEM 2)

- 1. <u>P-v and T-s diagrams 1/9 out of 1/9</u>
- 2. Realize that some states are not needed 1/9 out of 1/9
- 3. State calculations (at least 8 of them) 2/9 out of 1.5/9
- 4. <u>Calculate "y" 1/9 out of 1/9</u>
- 5. <u>Calculate deltaT water</u> 1/9 out of 1/9
- 6. Thermal efficiency (Wnet & Qin) 2/9 out of 1.5/9
- 7. Final results 1/9 out of .75/9

TOTAL 9/9 out of 7.75/9

FINAL GRADE (if everything is correct):

WRITING PORTION (max 10 points) + (80/2)*(PROBLEM 1 + PROBLEM 2) = 10.0 + (80/2)*(8.25/10+7.75/9) = 77.44 + 5 portfolio + 9.25 hw = 91.69 Total

4) Discuss the following:

a. What issues did you encounter in completing the test? How did you troubleshoot

them?

I had a hard time with question 1 being a zero answer at first and I second guessed myself. I need to be more confident in what I am doing. I feel when I see a zero answer that I am wrong and that is not always the case.

b. What steps did you take to complete the whole test? Would you change something?

I looked through all my notes, homework, videos, similar questions and solutions posted. for each question to see if I could apply anything form those questions. I also read through all the posted material and reviewed the lecture I attended to make sure I wasn't missing something that stood out. I would probably use more assumption if I wasn't able to fill in the blanks with the proper formula or equations. I would take assumptions to help fill in those blanks and see if what I assumed was practical for the real world.

c. What new concepts have you learned?

I learned about basic consideration in the analysis of Rankine Cycle with superheating, re-heating, and regeneration to steam power plants.

d. Where you think engineers use those concepts (provide specific examples)?

As some of the examples mention these can be used in jet engines or cars or even large compressors.

e. Where do you think you will be using everything you learned?

For me I work in the aerospace industry. If I ever move to engine design area I am sure I can use this information.

f. Do you think what you learn is important for your professional career?

Yes, we need to learn this information to have some intelligence of the basics. We as engineers need to know where to go to find the correct information.

g. How, when, where and why you might use this information or skill in the future?

I am not sure when I will use this information in the future, I currently work as a reliability engineer for an aerospace company. I could use this information if I switch to a design engineer for jet engines.

h. Have you been able to apply concepts you have learned in the course to what you do

at work or in other courses?

I have not applied these concepts in a work environment yet. I have not used them on another class yet either. There might be an opportunity for that in the future.

i. What areas did you feel you were most successful, or improved the most?

I feel I was very successful on question 2. There were a lot of parts to question to solve for to get the correct answer. Based off the solutions I did the first question correct. The 1st question I stopped after spending too much time on it.

j. How do you see this course's content intersecting with your field or career?

I work in the aerospace industry so maybe one day I can use this information, If not I can at least have a better basic understanding for jet engines on a aircraft.

k. How much time did you spend on

This test took me the entire time to complete, I Worked each question a little but at a time each night all the way until the end.