Final ePortfolio Reflective Letterv - Thermal Applications - Kayla Davies
In this assignment, you will look back on your experiences and work within the course, discussing what you have learned and how. Your Reflective Cover Letter is a source-based writing; use hyperlinks to directly link to the artifact/evidence from within your cover letter. Also consider addressing a spectrum of classroom activities as evidence of your learning, such as: in-class writing, class discussion, emails, homework, tests, final project, presentations, and editing.

You are going to write to address the following:

1. Persuade, both your instructor and the institution, that your work meets the objectives for this course. Discuss your learning experiences in this course, including any details that are unique to your own learning process, especially as represented by the contents of your portfolio.

For Test 1, I developed an intuitive understanding of how to apply the first and the second law of thermodynamics to different thermal systems, applied thermodynamics laws to gas turbines Engines using ideal cycles, reheating regeneration, and inter-cooling cycles, applied thermodynamics laws to Jet Propulsion Engines using ideal cycles, applied Rankine Cycle with superheating, re-heating, and regeneration to steam power plants, and defined the thermal efficiency, second law efficiency, and energy availability. Question one was working towards calculating the heat exchanger effectiveness in a rankine cycle with reheating/cooling/regen as well as the thermal efficiency. Question two related to these objectives due to us having to calculate the propulsive efficiency of a jet propulsion system and the isentropic efficiencies of the compressor involved. In test 2, I developed an intuitive understanding of how to apply the first and the second law of thermodynamics to different thermal systems and apply thermodynamics laws to gas turbine Engines using ideal cycles, reheating regeneration, and inter-cooling cycles. The first law of thermodynamics was used heavily in exam 2 when finding Qin and y1 when applied to the free water heater. The cycle we were working on had regeneration. In test 3, my partner and I used: apply thermodynamics laws to gas turbines Engines using ideal cycles, reheating regeneration, and inter-cooling cycles, Analyze the ideal Internal Combustion Engines cycles using air as the working fluid, and more specifically define different air-conditioning processes using the Psychrometric chart. The psychrometric chart was used throughout the entire exam.

2. Answer the following questions, using links or excerpts (visual, audio, or written) from your ePortfolio to illustrate your answers:

1) Where is your learning demonstrated in the course?
https://sites.wp.odu.edu/davieseportfolio/assignments/ ,
https://sites.wp.odu.edu/davieseportfolio/tests/
2) What areas did you feel you were most successful, or improved the most?
https://sites.wp.odu.edu/davieseportfolio/tests/ (my tests significantly improved as the semester went by).
3) How do you see this course's content intersecting with your field or career?

As stated in my previous reflections, I don't see it intersecting with my career very much, however it can be found at https://sites.wp.odu.edu/davieseportfolio/about-me/ .
4) Have you been able to apply concepts you have learned in the course to what you do at work or in other courses?
Not yet, but next semester I am able to use it in my thermal applications lab.
5) How, when, where and why you might use this information or skill in the future?
https://sites.wp.odu.edu/davieseportfolio/about-me/
6) Do you think what you learn is important for your professional career?
https://sites.wp.odu.edu/davieseportfolio/tests/ (found in reflections)
7) Where do you think you will be using everything you learned?
https://sites.wp.odu.edu/davieseportfolio/tests/ (found in reflections)
8) If you were starting this class again, what advice would you give yourself to ensure that you had a successful semester?
https://sites.wp.odu.edu/davieseportfolio/tests/ (found in reflections)

3. Also answer the following questions:

1) After taking this class, in what ways have you improved as an engineer? What brought about those improvements?
Upon completing this course, I've significantly improved my ability to respond to questions not found in textbooks. Although our assignments primarily derive from the course materials, the tests and final project demanded creative thinking, critical analysis, and the application of learned concepts onto paper.
2) What was your biggest accomplishment in the course? Be specific with respect to your work and the topics you learned in the course.
My biggest accomplishment in the course was the final exam, which was with a partner. It took a lot of effort to complete and we used the psychrometric chart as well as canvas resources to design refrigerant equipment, find the operating pressure, COP, mass flow rate, and power required.
3) What skills did you master in this course? How are they reflected in the assignments (HW, tests, etc.) Be specific.
I mastered finding the states using the appendices in the back of the Thermodynamics textbook and applying then to find the desired variables, as well as creating temperature vs entropy and pressure vs volume which are found in almost every practice problem and test question.
4) What do you feel are your strengths and weaknesses? Explain while making specific references to your work.
My strength was being able to understand and break down the problems asked of me as shown in the "writing rubric" section of the tests, as well as understanding the different cycles (otto, regeneration, etc) My main weakness was giving myself enough time to complete the exams and sometimes the homework. I oftentimes started too late and ran out of time.
5) How did you think about this course before you took it and how you think about it now that it is over? How many of your assumptions of understanding changed? Why?
Before I took this class, I didn't have many preconceived notions about the content, however after completing this course, I now have a better understanding on how refrigeration cycles work and am able to visualize a cycle in my head with compressors, turbines, and free water heaters.