

Final ePortfolio Reflective Letter - MET330 - Fluid Mechanics

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, the objectives used were Describe the nature of fluids and define different fluid properties such as viscosity and pressure; Compute pressure and the forces (magnitude, location, and direction) associated with it in a stagnant fluid when having to determine the required pressure at different points in the system. The objectives used in test 2 were: Describe the nature of fluids and define different fluid properties such as viscosity and pressure, Compute pressure and the forces (magnitude, location, and direction) associate with it in a stagnant fluid, Discuss what buoyancy is and determine object stability while floating or submerged in a fluid, Identify and solve for different very specific industrial problems, such as, open-channel flow, cavitation, water hammer, drag, lift, forces in pipes, and learn about different instruments to measure fluid flow quantities (such as, pressure, fluid velocity, flow velocity, etc.). Part B of this exam heavily used buoyancy, open channel flow, and cavitation. Water hammer, forces such as magnitude, location, and direction were found in part A. The objectives used in test 3 were to explain the fluid dynamics in pipes and fittings, apply the principles of conservation of energy (Bernoulli's equation) and mass to fluid flow systems, and compute friction losses in pipes for a variety of configurations (series, parallel, network, etc.). Bernoulli's was used in both parts of question two as well as question one, and finding the energy losses were the main part of question two. These objectives were continuously used throughout lecture and practice problems as well as homeworks.

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/tests/> , <https://sites.wp.odu.edu/davieseportfolio/hw/>

2) What areas did you feel you were most successful, or improved the most?

<https://sites.wp.odu.edu/davieseportfolio/project/>

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

<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?

https://drive.google.com/drive/folders/1wMVOFofnz5tCMEUORGsBSVAVuOwQzF1_?usp=sharing (fluid mechanics lab tab)

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

<https://sites.wp.odu.edu/davieseportfolio/tests/> (found in reflections)

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.google.com/odu.edu/team4sp24c3met330/home> (team site for project; focus on good team work and completing the homework)

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?

After taking this class, my ability to answer non-textbook formatted questions has strengthened greatly. While our homeworks are from the textbook, the tests and our final project were assignments that required us to use creativity, critical thinking skills and project what we have learned 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.

The final project was the biggest accomplishment I made in this course, as we were working on it all throughout the semester, including visiting the elementary school, having a presentation dress rehearsal and then the final engineering day project. We constantly improved our knowledge on viscosity and improved our presentation skills.

3) What skills did you master in this course? How are they reflected in the assignments (HW, tests, etc.) Be specific.

One of the skills I mastered in Fluid Mechanics this semester was working with a team. On our semester-long project, homeworks, and group assignments we had to use each other and rely on members of the team to do their part. I also have a strong skill in using bernoulli's equation to determine pressure due to it being used throughout the year on almost every exam.

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 being a leader in the group project. 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 didnt have many preconceived notions about the content, however after completing this course, I now have a better understanding on how fluids can flow depending on the pressure, how they can be damaging to certain metals, and how different pipes affect the flow.