

FLUIDS MECH-322 WINTER 2019

ANONYMOUS CLASS ASSESSMENT

Often there is discussion regarding the development of independent thinkers and how to achieve? The development of the independent mindset is never achieved by providing all the questions and all the answers! All researchers will agree that at the beginning of any research endeavor that one will never know all the problems and will never have all the answers. But the hallmark of the independent mind is having a problem solving mentality, having the ability to self-learn, having the ability to extrapolate data and to form conclusion, and having the fortitude to be unafraid to seek answers from multiple independent sources. Academic institutions at all levels have a formidable task for the 21st Century to transform student learners from an environment where “likes” and “dislikes” are more important than learning and demonstrated knowledge. Institutions that are successful will provide the next generation of independent thinkers that will face significant challenges in the next 20 years, considering the massive rate of technological advancement.

In the next 20 years, the world will see a cure for Cancer, will reach out and will start to colonize other planetary worlds, will discover new materials that will forever change our understanding of physics, and will be able to see further back into the past than ever imagined and will begin to understand the origins of “everything”. Academic leaders are faced with the challenge of teaching materials and concepts that have not changed for 100 years to prepare students to solve problems that we can’t even imagine today, and to be able to develop tools based upon on concepts that have not even been conceived. We live in a daunting academic environment, and the only solution is to focus on student development that embraces discovery and inquiry, and to develop a mindset that “rejects” being told all the answers and to develop a mindset that expects to be challenged and to understand that it’s “ok” to not know the answers. Rather the most important skill that we can impart to students is to develop an understanding of the “process” to find and to understand answers to unknown problems and questions. It will be these students and these institutions that will contribute to the long term survival and expansion of human kind.

Please answer the following briefly:

1. Engineering design is the execution of applied physics for the development of technical solutions for challenges facing the survival of mankind; and, the technical communications of those solutions. Please comment on if you think MECH-322 Fluids Mechanics and parametric design has enhanced your skills and ability as a student, and as a future engineering professional, relative to engineering design thought and technical communications. Why or Why Not? Thank you.
2. What suggestion would you provide to future students to enhance their understanding and performance within ME-322 Fluid Mechanics?



ENGINEERING DESIGN & PARAMETRIC THINKING

1. Yes, it makes how to design systems with fluid as understandable.
2. It has enhanced my skills because I was forced to learn or drown, failure was not an option and I had to overcome.
3. Fluid Mechanics has enhanced my skills as a student & engineer because I directly work w/micro-fluidics at my co-op. It has offered me a greater understanding of the properties of fluid movement.
4. I do believe that MECH-322 has challenged me as a student. I have learned much more by my own determination.
5. It has; I gained a good grasp of fluids and of approaching a problem by applying to theory in the area.
6. I believe the methods taught in the course enhanced my ability to create and execute a plan.
7. Parametric thinking has greatly influenced my ability as an engineer to clearly analyze systems and more efficiently tackle solutions.
8. I think it has encouraged me to ask why more often when considering when equations can be used.
9. Yes, this course helped me to develop my parametric skill.
10. The ROAD MAP and parametric thinking truly do work.
11. It helped my problem-solving skills.
12. I understand slightly more how fluids behave in the real world, and how many applications fluids has.
13. While I think the “parametric thinking” enhanced my ability to think as an engineer, I felt it got in the way at learning MECH-322 content at times. However, it as a challenge I was able to overcome I felt.
14. Yes, I believe it has. Similar to Thermo this class has forced me to take into considerations the unique conditions of each problem & how that affects the equations used.
15. Fluids has taught me a lot about Bernoulli and conservation of energy applied to real world things.
16. It has, take the time to sit on concepts until something ‘clicks’.

17. Yes, I learned to focus on symbolically solving answers to see relationship before plugging in numbers.
18. Yes, MECH-322 enhanced my critically thinking and problem-solving skills.
19. I believe this class has increased my ability to think parametrically to solve problems because of the emphasis on it in class.
20. Do all the problem he puts in the slides after class. Also pay attention to the emails. Be able to do the problems yourself.
21. Yes, it has broadened my understanding of fundamental problems.
22. **I really think Parametric Design is the most important aspect of engineering as it gives a general understanding of the concepts rather than a specific understanding on a question.**
23. The material covered will be of help in the future as an engineer as they are fundamentals of a lot of engineering solutions.
24. All problems can be solved with a ROAD MAP and it is important to follow steps to get to the solution. I believe this class has enhanced my planning abilities to solve problems.
25. Yes, I believe it has. With the ROAD MAP I believe it has helped.
26. MECH-322 has helped to prepare me by showing me real world applications.
27. I believe fluid mechanics is incredibly useful for my future, and this class has helped.
28. Fluid Mechanics handles a lot of problem solving through road mapping and organization which can be very helpful to an engineer.
29. The concepts are very important to face challenges. I can apply concepts after taking this class.
30. I do believe it has because of the process which we solve problems.
31. Parametric Equations helped me to see the big picture and understand what things I must include into my real-world systems.
32. No. I was not consistently challenged as I did not often have the resources to overcome my challenges.

FUTURE STUDENTS ADVICE

1. Do the homework and understand it. If you don't, meet one on one with Prof. If not, you will fail.
2. Practice...Practice...Practice...
3. Other students need to find the personal determination to success as well.
4. Do homework and don't equation-hunt; apply the theory to the particular situation.
5. Future students should understand the importance of the ROADMAP as a tool, NOT an inconvenience!
6. **Solve problems EXACTLY how Prof. Berry says, and you'll learn lots and do great.**
7. Do homework or die. Do homework and only go to the hospital.
8. The biggest thing is to complete every single homework problem to the best of your ability and to reach out for help when you need it.
9. Adapt to survive.
10. STUDY!!
11. Give up and do it the BERRY way.
12. Don't try to learn it your way.
13. Try to accept 'parametric thinking' earlier; I refused to see the benefits at first.
14. Study and learn "Berry's" method because none of the rest of it matters.
15. Take notes in spite of the lecture note packets.
16. Go to study sessions to enhance understanding.
17. Don't get overly stressed out when you can't understand something.
18. Focus on ROAD MAPS, do problems to fully understand problems.
19. Do the homework.
20. DO THE HOMEWORK, SERIOUSLY.
21. Not to focus on problems, but strategies to solving problems.
22. Practice problems from the homework.

23. Know how to develop your ROAD MAP. It is the best method to succeed in this course.
24. I suggest students take a lot of time to do the HW problems.
25. **DO THE HOMEWORK!!**
26. Do the homework and follow the roadmap.
27. To prepare yourself for the class follow the ROAD MAP and ask questions if needed.
28. **I would suggest that students prepare more than they feel necessary for the first quizzes and test.**
29. **Read the book.**
30. Do homework in the method provided in class.
31. **Focus on the process/road map.**
32. Know your basic TRIG, learn the rules of fluids (knowing when/when not to apply these rules is the key).