



<b>THE STUDENT ASSESSMENT OF INSTRUCTION SYSTEM THE UNIVERSITY OF TENNESSEE</b>				
Engineering Fundamentals 151	Sec # ef1sc	William Schleter		
Physics for Engineers I (LEC)	Fall 2015	Form G	# of Students: 261	

Questions	Excellent	Very Good	Good	Fair	Poor	Very Poor	Item Mean
1. Course as a whole	112 (43%)	90 (35%)	44 (17%)	10 (4%)	1 (0%)	1 (0%)	4.16
2. Course content	104 (40%)	90 (35%)	51 (20%)	12 (5%)	3 (1%)	0 (0%)	4.08
3. Instructor overall	127 (49%)	89 (35%)	34 (13%)	7 (3%)	0 (0%)	0 (0%)	4.31
4. Instructor's contribution to students' understanding of concepts	116 (45%)	89 (34%)	41 (16%)	10 (4%)	3 (1%)	0 (0%)	4.18
5. Course organization	128 (49%)	74 (29%)	46 (18%)	10 (4%)	1 (0%)	0 (0%)	4.23
6. Opportunity to ask questions	106 (41%)	71 (28%)	53 (21%)	16 (6%)	10 (4%)	2 (1%)	3.93
7. Explanations by instructor	118 (45%)	89 (34%)	40 (15%)	13 (5%)	0 (0%)	0 (0%)	4.20
8. Contribution to student's ability to solve problems	105 (40%)	91 (35%)	50 (19%)	11 (4%)	3 (1%)	0 (0%)	4.09
9. Use of examples and illustrations	125 (48%)	80 (31%)	43 (17%)	12 (5%)	0 (0%)	0 (0%)	4.22
10. Length/difficulty of homework assignments	78 (30%)	69 (27%)	48 (19%)	44 (17%)	11 (4%)	8 (3%)	3.52
11. Exams' contribution to understanding content	97 (37%)	80 (31%)	61 (23%)	15 (6%)	6 (2%)	1 (0%)	3.94
12. Instructor's enthusiasm	133 (52%)	79 (31%)	37 (14%)	9 (3%)	0 (0%)	0 (0%)	4.30
13. Textbook overall was	50 (20%)	41 (16%)	72 (28%)	63 (25%)	14 (5%)	15 (6%)	3.02
14. Answers to students' questions	96 (37%)	78 (30%)	60 (23%)	20 (8%)	3 (1%)	3 (1%)	3.90
15. Relationship between lectures and text	74 (29%)	63 (25%)	73 (29%)	32 (13%)	8 (3%)	5 (2%)	3.58
16. Availability of extra help when needed	107 (41%)	81 (31%)	55 (21%)	15 (6%)	0 (0%)	2 (1%)	4.05
17. Interest in whether students learned	121 (47%)	71 (27%)	47 (18%)	16 (6%)	2 (1%)	2 (1%)	4.11
18. Amount you learned in the course	108 (42%)	86 (33%)	45 (17%)	14 (5%)	2 (1%)	4 (2%)	4.05
19. Relevance and usefulness of course content	116 (45%)	86 (33%)	45 (17%)	11 (4%)	1 (0%)	1 (0%)	4.16
20. Relevance and usefulness of assignments	107 (41%)	77 (30%)	54 (21%)	15 (6%)	5 (2%)	2 (1%)	4.00
21. Reasonableness of assigned work	85 (33%)	74 (29%)	47 (18%)	35 (14%)	10 (4%)	7 (3%)	3.65
22. Relationship of exams to material emphasized	107 (41%)	84 (32%)	50 (19%)	16 (6%)	2 (1%)	1 (0%)	4.06

Relative to other college courses you have taken	Much Higher	Average				Much Lower		
23. Do you expect your grade in this course to be:	23 (10%)	42 (20%)	55 (20%)	86 (40%)	23 (10%)	6 (0%)	8 (0%)	
24. The intellectual challenge presented was:	78 (30%)	90 (40%)	48 (20%)	23 (10%)	4 (0%)	0 (0%)	0 (0%)	
25. The amount of effort you put into this course was:	91 (40%)	69 (30%)	50 (20%)	25 (10%)	3 (0%)	1 (0%)	3 (0%)	
26. The amount of effort to succeed in the course was:	96 (40%)	80 (30%)	44 (20%)	22 (10%)	0 (0%)	0 (0%)	1 (0%)	
27. Your involvement in this course (asgn, atnd, etc) was:	99 (40%)	89 (40%)	31 (10%)	21 (10%)	2 (0%)	1 (0%)	0 (0%)	

28. On average, how many hours per week have you spent on this course, including attending classes, readings, reviewing notes, writing papers, and any other course related work?	
Under 2	0 (0%)
3-4	4 (2%)
5-6	7 (3%)
7-8	27 (11%)
9-10	29 (12%)
11-12	51 (21%)
13-14	39 (16%)
15-16	32 (13%)
17-18	17 (7%)
19-20	11 (5%)
21-22	7 (3%)
22 or >	19 (8%)

29. From the total average hours above, how many do you consider were valuable in advancing your education?	
Under 2	4 (2%)
3-4	4 (2%)
5-6	27 (11%)
7-8	44 (18%)
9-10	57 (23%)
11-12	36 (15%)
13-14	25 (10%)
15-16	19 (8%)
17-18	7 (3%)
19-20	10 (4%)
21-22	5 (2%)
22 or >	5 (2%)

30. Expected Grade	
A	83 (34%)
B+	47 (19%)
B	54 (22%)
C+	31 (13%)
C	17 (7%)
D	1 (0%)
F	0 (0%)
S	1 (0%)
NC	9 (4%)
Other	0 (0%)

32. Class Composition	
Fresh	203 (84%)
Soph	22 (9%)
Junior	12 (5%)
Senior	2 (1%)
Grad	1 (0%)
Other	3 (1%)

33. Wanted to take course	
Yes	200 (82%)
No	13 (5%)
Neutral	30 (12%)

31. Course Was	
In major	229 (95%)
In minor	0 (0%)
Dist. Req.	8 (3%)
Elective	2 (1%)
Other	3 (1%)

### Student Responses to Open Ended Questions

#### Question #1: Was this class intellectually stimulating? Did it stretch your thinking?

- Complex topics and real world applications required new perspectives and collaborations to succeed.
- 
- The problems and scenarios assigned proved to be a challenge and required a great deal of thought and problem solving to apply what we learned to find the solution.
- I learned a lot of practical engineering applications
- The class got in depth with real world situations requiring the use of engineering problem solving skills.
- Yes, it was hard but fair
- Yes there were so many fun things that the professors provided to us. They put a lot of jokes in their slides and in the homework. It also taught me all new things.
- Presenting challenging concepts in unique ways helped a lot.
- I learned a lot of content this semester, and also furthered my own problem solving skills
- expansion of the topics covered was required to solve given problems
- Physics does this inherently
- Presented new material in the physics field which I had not studied before.
- Idk.
- It was the most challenging course ive ever taken. Prior to taking the class, i had already known i was slightly proficient in physics, but this course stretched that proficiency to barely able.
- It was a different spin on physics i had before.
- I learned a lot and had to think.
- I learned a lot of valuable insight for courses I will need to take in the future.
- It taught me application of real world physics.
- Yes, I have never taken physics, and I need it for my major.
- Concepts were far too difficult for me to grasp, and problems in class were sloppily done and not fully worked out. I felt as if I was set up to fail this class despite all the work I put in.
- Only because I took honors and AP physics in high school.
- n/a
- It physic-based class.
- It made you think through problems that were difficult at times
- It made me learn much more than I wanted
- It taught me to think logically.
- It was a major specific class crucial to the understanding of engineering it allowed me to get a feel for what engineering is and what I need to know for my future job.
- Yes, the labs were very interesting and helped me further understand the material.
- The class work, tests and projects all require problem-solving thought.
- The coursework wasn't particularly difficult, but the amount of work and the speed with which we covered topics made it a very challenging class.
- The concepts were extremely hard and I still don't have an understanding of the concepts. The class is extremely hard and probably the hardest I've ever taken.
- Good introduction to engineering
- I enjoyed this class quite a bit. The professors did a great job at keeping things interesting and sparking interest in the class.
- Even though I learned most of this stuff in high school, I still found the way the class was set up to be intellectually stimulating and enjoyable. I really liked the labs.
- I thought this class was intellectually stimulating, because it really opened up my eyes to how various things work in the world. Learning these concepts and applying them to the real world was very interesting to me.
- A wide variety of topics were covered, and we learned how they relate and got hands on experience on how to apply them.
- I had to learn entirely new subjects and barely made it by on tests.
- It built on top of my previous knowledge base from high-school AP physics, which I believed was fairly comprehensive.
- it was a very challenging class

### Student Responses to Open Ended Questions

#### Question #1: Was this class intellectually stimulating? Did it stretch your thinking?

- The logic of taking apart questions into something you need/can use is difficult. i find myself needing more time on test to figure out what needs to be done and what formula needed to be used. Questions are not worded exactly the same but provides the same concept. Making thinking a requirement and needing time for me to understand.
- It did stretch my thinking. I think the biggest problem with this class is how quickly the material is presented. I, personally, have researched this and if a student has seen or done physics before they were not doing bad but adult students who didn't have a chance to have physics before now were bombarded with concepts and it was difficult for a lot of us to keep up. The overall grades of the whole class will never reflect this because some students just had 2 years of this in high school. It was a daunting task to attempt to stay with the material.
- Yes it makes me a better engineer
- It was a difficult course that I had to work hard in to do the homework and keep a good grade in the class.
- Exciting and fun
- Physics requires full concentration, one mistake affects a whole problem.
- The material is very challenging and the homework really makes you think about how you are doing things.
- I had no idea what I was doing and I still don't understand most of the content.
- The class challenged my every thought and made me work hard and study.
- There were many examples as well as a variety of practice problems for each topic
- It was a topic I had never studied before, and so it was a breath of fresh air. Since, I was not really familiar with it, it was harder than my other classes.
- This class was amazing. Once you have the basic information you can apply it to so many things, and the homework questions were never the same. It was like a great beast that had to be slain, and once you did you felt so accomplished.
- Yes, they did a very good job of having challenging, but relevant content. I never felt like I was being 'left behind' but also never felt like I was steamrolling through everything.
- Interesting physics concepts
- Very difficult, but it's a wead out soo...
- The material is fascinating and I was required to think about how to apply the concepts for every problem
- The class was very intellectually stimulating for a first year physics class.
- introduced me to physics
- The material presented in this course was challenging at all times. However, extra help sessions and the opportunity to understand the material was readily available, which stretched my thinking.
- It developed on knowledge I learned in high school as well as introduce new and interesting topics.
- it made me push my previous limits to find that i could go past them and succeed
- the material was hard
- Yes physics in general is a tough class intellectually, and this class moved at a quick pace which was a challenge for me to keep up
- This course offers a lot of material that builds on itself. All the equations need to be understood not just given. Many problems require a lot of thinking and manipulation to solve.
- It took the concepts I learned in high school and built off of them. The coolest thing about it to me is free body diagrams because you don't have set equations, like its your job to figure out how things relate and thats so cool to me.
- A lot of the concepts were difficult and took a lot of thinking and studying to understand.
- Although having previously taken 2 years of AP Physics in high school, this class presented real life scenarios to concepts I have learned in a way I had never seen before.
- It was a very difficult class, and at times, the lectures were very difficult to understand.
- It was challenging, new material that I enjoyed learning and doing the work.
- The physics course I took in high school was very limited. This course has expanded my knowledge greatly.
- i had not taken a physics class before so it was good to finally take something new and different that most classes. plus i enjoyed the material but the difficulty kept me stimulated and wanting to learn so much more.
- Class presented material I was unfamiliar with which required dedicated attention to understand. Overall, course was intellectually stimulating to someone who had little to no previous experience with the material.
- I never had taken physics before, so this class was very challenging for me.
- It was a very stimulating course. It was taught well, you just have to put what they have taught into practice, which can be difficult and challenging.
- It required me to think about real world applications for every problem.
- The actual material of this class proved to be more difficult than I expected

### Student Responses to Open Ended Questions

Question #1: Was this class intellectually stimulating? Did it stretch your thinking?
<ul style="list-style-type: none"> <li>This class forced me to take the concepts that were taught to me in class and apply them in different ways, it wasn't just regurgitating the ideas and example problems</li> </ul>
<ul style="list-style-type: none"> <li>I had never taken a physics class before</li> </ul>
<ul style="list-style-type: none"> <li>We had to do lot of differen variations of the same problems.</li> </ul>
<ul style="list-style-type: none"> <li>It made me realize the amount of work that would have to be put into college classes to get good grades. It taught me a lot about physics and that engineering is more than just building things.</li> </ul>
<ul style="list-style-type: none"> <li>The material was different from common physics problems</li> </ul>
<ul style="list-style-type: none"> <li>Very hard course but if you work for it you can easily make good grades. Doing the homework really helped understand the material.</li> </ul>
<ul style="list-style-type: none"> <li>Problem solving</li> </ul>
<ul style="list-style-type: none"> <li>Very difficult and time consuming coures</li> </ul>
<ul style="list-style-type: none"> <li>It stretched my thinking to a good point, then kept stretching it, and stretching it more until my thinking had broken. Work load was extremely massive for no reason. Material was cramped together and run over briefly. However, I realize that this is one of the engineering "weed-out" classes, so I was prepared to put all of my time into this class and neglect other classes.</li> </ul>
<ul style="list-style-type: none"> <li>The material was challenging and applicable.</li> </ul>
<ul style="list-style-type: none"> <li>Yes. I have never had a physics class before but I really enjoyed this one and I learned more than I could have imagined from one class.</li> </ul>
<ul style="list-style-type: none"> <li>Challenged me beyond basic physics problems.</li> </ul>
<ul style="list-style-type: none"> <li>very interesting course, homework problems really challenged me.</li> </ul>
<ul style="list-style-type: none"> <li>It was extremely challenging.</li> </ul>
<ul style="list-style-type: none"> <li>It gave a new perspective to the inner workings of the physical world.</li> </ul>
<ul style="list-style-type: none"> <li>This class helped me open up into how to think like an engineer. The work was tedious and unbearable, but it did teach me what to expect from engineering.</li> </ul>
<ul style="list-style-type: none"> <li>The course brought up many topics that I had observed in real life before but had no idea how detailed the physics behind most everyday things. I took a physics class in high school but it was nowhere near as in depth as this class, but that is to expect I guess.</li> </ul>
<ul style="list-style-type: none"> <li>It was interesting and it did make me think. However, once I realized that I wanted to switch out of the college of engineering, I lost motivation and found it less interesting.</li> </ul>
<ul style="list-style-type: none"> <li>Yes but it was too intellectually stimulating that it caused me to stress and spend many sleepless nights in the library.</li> </ul>
<ul style="list-style-type: none"> <li>na</li> </ul>
<ul style="list-style-type: none"> <li>not interested in the material</li> </ul>
<ul style="list-style-type: none"> <li>It was hard work</li> </ul>
<ul style="list-style-type: none"> <li>Good class with difficult concepts.</li> </ul>
<ul style="list-style-type: none"> <li>It gave me headaches.</li> </ul>
<ul style="list-style-type: none"> <li>It presented me with challenging concepts that I will have to use later in my college career.</li> </ul>
<ul style="list-style-type: none"> <li>yes it made me think through every problem given.</li> </ul>
<ul style="list-style-type: none"> <li>Yes, it made students think critically through problems given.</li> </ul>
<ul style="list-style-type: none"> <li>I think it takes certain type of people to understand physics and Im just not one of them.</li> </ul>
<ul style="list-style-type: none"> <li>Doing online homework really is the worst sometimes but it makes you go back and look at what you've actually done wrong so I find that frustrating yet helpful.</li> </ul>
<ul style="list-style-type: none"> <li>This class required a lot of thinking from me because I've never really been good at physics, but this class really helped me expand my ability to learn physics and use it.</li> </ul>
<ul style="list-style-type: none"> <li>It has to physics problems relating to real life situations.</li> </ul>
<ul style="list-style-type: none"> <li>Physics for engineers was stimulating and taught me a whole new area of science and mathematics that will help me further my career</li> </ul>
<ul style="list-style-type: none"> <li>I loved the class. The instructors made things easy to understand, but made the class hard so we had to think.</li> </ul>
<ul style="list-style-type: none"> <li>The teachers were wonderful.</li> </ul>
<ul style="list-style-type: none"> <li>I find physics interesting and the in class examples helped clear up misunderstandings.</li> </ul>
<ul style="list-style-type: none"> <li>Physics is a hard concept. This whole semester required max capacity thinking. It was always good to have a group learning with me to see more than just my approach to various problems.</li> </ul>
<ul style="list-style-type: none"> <li>I never had a decent physics course in high school, and this course created a challenge that was very intellectually stimulating.</li> </ul>
<ul style="list-style-type: none"> <li>It was much harder than any other class I have taken. I guess that is 100% relative to the fact that it wasn't just formulas. It was remotely open-ended. Not only did you have to find the answer, but you had to figure out how to approach the problem to start with. That was the challenge.</li> </ul>

### Student Responses to Open Ended Questions

#### Question #1: Was this class intellectually stimulating? Did it stretch your thinking?

- I enjoy physics, but it was plenty of work and I did not use my time well for studying and doing assignments for this class. It takes a lot of work and time to do well in this class. It was stimulating because it was a difficult class and sometimes had to think a bit differently for doing well in it.
- I needed to develop a new approach to problem solving as I hadn't taken any challenging courses before.
- I had minimal understanding of the topics covered, but the class helped me obtain a more in depth knowledge of topics.
- i love engineering and this class helped me see that
- Yes! I actually enjoyed this class very much.
- I had no prior physics knowledge, so it was a challenge to start out behind. It was necessarily I didn't understand the concepts because in the end I did but I had to get and ask for help which I am so not used to doing in the past.
- it was just a hard course
- It widened my thoughts and perspectives of physics and how the world works in everyday situations.
- Fairly difficult homework and hard concepts.
- To derive the course needed to solve a problem required extensive thinking.
- I learned a lot I didn't know.
- The content presented was challenging and required thought and understanding of more than just the basic concept
- Challenging problems and new ideas
- It was intellectually stimulating because the problems and material were both very challenging. However, because of the sheer amount of focus that I had to devote to this course to do decently, I found myself losing any desire to complete the material during the latter portions of the semester. However, because the material itself is so broad and difficult, I cannot reasonably criticize the volume of work that I was presented with.
- I didnt feel like i was personally taught to understand physics to the best of my ability
- I had never thought about problems from the mindset of a physicist before this course.
- I already did two years of physics in high school, and this was, for the most part, a report of what I already learned. However, they did a good job in teaching the material regardless of that fact.
- I had Ap physics in high school, but this class helped to solidify what I already knew as well as teach me much more.
- The class was difficult enough to make me think through everything, but not so much that it made me want to quit the program.
- It was all new material and really explained things that i previously took as ""just cause.""
- This class was very challenging for me and it is going to take practice to master the concepts. The labs helped a lot more than the lectures.
- It was a very well organized clas
- Some of the homework questions required a deeper understanding of the subject.
- It was very challenging and made me think more than I thought I could.
- Made me use all the physics I knew
- I learned too much information about physics.
- Learning new stuffs stimulates me
- Although I already has some prior knowledge with physics, the examples and applications of the physics covered in this class required more critical thought and was very well organized in its progression.
- Yes, the homework problems were very challenging and forced me to think about a lot things in new ways.
- The homeworks required a firm grasp of the concepts taught in class and some independent research
- This took up too much of my time.
- Because I had never taken this subject before.
- It's physics yo
- Yes this class was very intellectually stimulating. The assignments took a lot of brain power and often took a lot of time to figure out the solution.
- The homework and classes were very creatively made, making the class enjoyable.
- Physics helps me to see the world in a different perspective. It helps me to solve problems more effectively when it comes to objects or real life situations
- I have learned to learn the material, rather than just memorize it for an exam. I learned how to take material and apply it to real life situations
- Difficult but interesting course subject
- Yes, I wasn't just spoon-fed how to solve a problem. I would have to figure it out from what was taught and work from there.
- the concepts taught were of higher level thinking and required me to problem solve and figure a lot out on my own.
- Physics is challenging to me and this class was intellectually stimulating because of all the homework.
- Yes physics was a new course

**Student Responses to Open Ended Questions**

Question #1: Was this class intellectually stimulating? Did it stretch your thinking?

- Yes, I had never had physics in high school so I was pushed really hard to try to understand concepts and keep up.
- Mechanics are hard.
- A lot of the concepts were hard to learn without hours of practice.
- Because the class had really difficult problems that took some time to think about
- The concepts presented were interesting.
- Allowed me to see things the way an engineer would, as well solve problems as one would.
- Module 4 was a pain.
- The content was interesting.
- There where a few interesting concepts I had never experienced.
- It did broaden my knowledge.
- Didn't take physics in highschool so it was all new concepts
- Yes, it taught us basic physics that all engineers should understand.

Question #2: What aspects of this class contributed most to your learning?
<ul style="list-style-type: none"> <li>• Doing the homework assignments to better understand what was explained in the lecture.</li> </ul>
<ul style="list-style-type: none"> <li>• recitation</li> </ul>
<ul style="list-style-type: none"> <li>• Discussion board on the homework.</li> </ul>
<ul style="list-style-type: none"> <li>• EVERYTHING</li> </ul>
<ul style="list-style-type: none"> <li>• Watching the old tests. When I got to see the examples done and explained step by step, I was finally able to understand.</li> </ul>
<ul style="list-style-type: none"> <li>• Lecture</li> </ul>
<ul style="list-style-type: none"> <li>• The helpful instructors.</li> </ul>
<ul style="list-style-type: none"> <li>• Module 4</li> </ul>
<ul style="list-style-type: none"> <li>• The online homework.</li> </ul>
<ul style="list-style-type: none"> <li>• The homework, even though it was difficult</li> </ul>
<ul style="list-style-type: none"> <li>• Examples from lecture.</li> </ul>
<ul style="list-style-type: none"> <li>• The real-world applications were excellent.</li> </ul>
<ul style="list-style-type: none"> <li>• The online homework and textbook.</li> </ul>
<ul style="list-style-type: none"> <li>• The practice exams were extremely helpful in studying for exams. They give you plenty of information for how to succeed. It is a really great class how it's laid out. Loved having recitation for synthesizing material and Flex Friday's were the best. The professors really realized we were college students and not everything was about physics so they really helped us along and gave us a lot of treats throughout the course.</li> </ul>
<ul style="list-style-type: none"> <li>• The homework</li> </ul>
<ul style="list-style-type: none"> <li>• homework</li> </ul>
<ul style="list-style-type: none"> <li>• The recitation times were the most helpful in my learning. I was able to put the information from lecture into practice and ask questions to my peers and TAs for guidance.</li> </ul>
<ul style="list-style-type: none"> <li>• Connecting knowledge to real world examples</li> </ul>
<ul style="list-style-type: none"> <li>• Lab, homework, group work, lecture</li> </ul>
<ul style="list-style-type: none"> <li>• Homeworks and Exams</li> </ul>
<ul style="list-style-type: none"> <li>• Doing the homework taught me a lot about the various concepts taught in the class.</li> </ul>
<ul style="list-style-type: none"> <li>• The lectures</li> </ul>
<ul style="list-style-type: none"> <li>• The homework made me learn the material the most</li> </ul>
<ul style="list-style-type: none"> <li>• Working on homework with friends</li> </ul>
<ul style="list-style-type: none"> <li>• The homework and the lectures. The labs were interesting and fun but didn't contribute much until the end. The final project was great because of the challenges it provided forcing us to apply what we had learned.</li> </ul>
<ul style="list-style-type: none"> <li>• Homework.</li> </ul>
<ul style="list-style-type: none"> <li>• The online homework, although at times lengthy, helped most in my understanding of the subject.</li> </ul>
<ul style="list-style-type: none"> <li>• Homeworks and examinations was hard enough</li> </ul>
<ul style="list-style-type: none"> <li>• The class as a whole was all new to me so it all contributed to me personally.</li> </ul>
<ul style="list-style-type: none"> <li>• Notes</li> </ul>
<ul style="list-style-type: none"> <li>• The homework taught me the most.</li> </ul>
<ul style="list-style-type: none"> <li>• Homework to help build my understanding of concepts</li> </ul>
<ul style="list-style-type: none"> <li>• Lab</li> </ul>
<ul style="list-style-type: none"> <li>• Homework and labs</li> </ul>
<ul style="list-style-type: none"> <li>• The labs and practical examples helped the most in showing where this would be applied in real world scenarios</li> </ul>
<ul style="list-style-type: none"> <li>• Lectures were very helpful to understanding the material.</li> </ul>
<ul style="list-style-type: none"> <li>• The lab times were very helpful.</li> </ul>
<ul style="list-style-type: none"> <li>• Free body diagrams.</li> </ul>
<ul style="list-style-type: none"> <li>• practice exams; lab</li> </ul>
<ul style="list-style-type: none"> <li>• The lectures were helpful, but the only way that I could get a true grasp over the material was completing the homework assignments.</li> </ul>
<ul style="list-style-type: none"> <li>• The labs and homework problems</li> </ul>
<ul style="list-style-type: none"> <li>• The lab section was the most helpful</li> </ul>
<ul style="list-style-type: none"> <li>• The examples.</li> </ul>
<ul style="list-style-type: none"> <li>• Reviewing the material in preparation for the exams</li> </ul>
<ul style="list-style-type: none"> <li>• Repetition of homework material</li> </ul>

Question #2: What aspects of this class contributed most to your learning?
• Lectures
• Lab.
• lectures examples
• The recitation course, I had a great TA and the labs helped my understanding of each concept and allowed me to ask as many questions as I wanted to.
• The homework made a huge impact
• The homework.
• The labs because I could work with people and ask questions. Also, when I started ignoring the lectures and working on the problems in the book. Plus, Walter Lewin's lectures are online and I understood his explanations.
• Doing the notes in lecture and getting help from my TA when I needed it.
• The lectures, particularly the parts explained by Prof. Schleiter and Dr. Bennett, allowed me to understand the material.
• The homework assignments were difficult, and that helped me to prepare for exams.
• It was hard. I learn more when a class is hard because it makes me really try to understand the course material.
• Lectures and recitations
• I think the real life math problems contributed most to my learning.
• The printed out notes and homework really helped me learn the material.
• Lectures and homework
• the ""real-world"" scenarios and being challenged
• I liked the lectures.
• lectures and practice exams
• My TA, Andrew Lund, helped me to learn the most due to his ability to explain in a way that I could understand.
• The review before the exams.
• TA Rachel, she really did help.
• n/a
• Dr. Richard Bennet
• the examples in lecture. I am a visual learner and to see the examples helped me to learn it better
• Doing past exams.
• Lecture and homework.
• The labs helped a lot.
• The visual demonstrations and lab projects helped me the most.
• Being able to picture what I was being taught helped me understand the concepts better.
• The hands-on group work that applied concepts from the lecture.
• The labs helped most.
• The lectures.
• Lectures, homeworks, and old exam videos.
• Live demonstrations in lecture and applications in lab.
• Studying
• working and reworking homework problems
• Homework and Lab
• The unique questions that were asked
• The homework helped me understand the material better and if I was struggling with a subject it helped me practice it so that I could be better at it.
• The lab sessions on Tuesday and Thursday
• the project
• The labs every Tuesday and Thursday gave me smaller student to teacher ratio environment that was invaluable, I was able to ask my TA questions about any topic I wasn't sure of from lecture.
• Labs
• Learning the physics of things around me.
• Taking what we learned and put them into practice.
• the labs helped me learn a lot



Question #2: What aspects of this class contributed most to your learning?
• Lectures and homework assignments assured an understanding of the material.
• Online homework
• the previous tests and video answers
• The homework helped me to learn the concepts and apply them in various situations.
• the examples with each topic
• Going to lectures helped as well as working on the homework and labs.
• The lectures and the homework
• The homework, although very lengthy, was very helpful in leaning the content.
• Honestly, the homework takes forever but if you can get through that stuff on your own then you can really figure anything in the class out
• The lecture and the homework assignments helped me the most. The lab part of the course wasn't as influential to my learning as the other aspects of the course.
• Homework and lectures were a great way to learn the material
• lectures and hw
• examples in class, labs, and the problem on the homework
• Lecture and online homework.
• The amount of homework and outside effort required to maintain a high grade.
• Doing the homework and working on projects in the labs
• The in lectures and availability of notes and follow up information on the class website. This meant that anything I 'missed' in lecture I could easily find and understand via the website.
• Everything in this class was helpful, the professors, the website, and the teacher's assistants.
• The professors gave good examples in class and lecture to help you to understand the material.
• The labs and online homeworks
• Lecture videos, old exams worked out
• Studying like crazy for the exams.
• The recitations helped me become more confident in my knowledge. I thought they really went over the material well.
• Previous knowledge of physics from high school.
• Lecture and Tutoring
• The 110% homework deadline. This deadline motivated me to work on my homework before the day it was actually due to get extra points, and the lecture was therefore more fresh in my mind when the knowledge was reinforced by the homework.
• The help sessions and tutoring
• The instructors were amazing. I had a personal issue come up and they were very helpful.
• Professors doing on-stage performance.
• The hands on examples showing the learned concepts in the real world helped immensely.
• Online homework system
• Lab and other students.
• The hands on work during recitation.
• The online homework assignments are where I spent the most time thinking about course materiel.
• The labs and homework.
• All aspects
• probably the homework as it was very related to the exams
• Homework, practice, practice, practice
• The labs.
• Online lectures.
• homework problems and reviews
• The homework and past tests had the most contribution
• The help sessions and tutors
• Studying the night before a test because I didn't know how to do anything and didn't have time to complete all the homework
• The discussion section of the homework.

Question #2: What aspects of this class contributed most to your learning?

- many worked out examples
- Lecture. The lecture were always fantastic. The ability to do practice tests also saved my life and my grade.
- Real world problems.
- The lectures/study groups at night in South Carrick
- Examples of problems
- The in depth problems.
- The teaching and application of important engineering concepts through labs, lectures, and homework problems.
- I was able to work on my problem solving an critical thinking skills.

Question #3: What aspects of this class detracted from your learning?
• Some concepts were not explained, either due to time constraints in lectures or other technical difficulties/inconsistencies.
• None.
• None
• Professors going to fast for me sometimes.
• Sitting in the back of lecture.
• Curve balls in homework that wouldn't happen in real life such as obscure units. Also amount of homework got to the point where I stopped learning what the numbers meant and just tried to get done with the problem.
• Labs. EF 151 lab was absolutely pointless. It was a biweekly waste of time
• Nothing
• Textbook examples, they didn't really help.
• The clicker questions when there obviously was not enough time for them to teach us examples.
• The difficulty of the homework. Seldom could i ever completely finish a homework assignment alone; i always required extra help from either tutors or the help sessions.
• The lectures were unappeasing
• homework
• loud students during lecture
• Labs.
• The insane amount of homework that is assigned paired with the 5 meetings a week consume a lot of time.
• The large size of classes.
• Enormous class size, poor handwriting on examples.
• n/a
• Group work
• nothing was too distracting
• Fast pace in lecture
• How large the class size was.
• Nothing distracted my learning in the program
• The large audience was sometimes talkative.
• Having a homework assignment due almost every night for EF151 meant I had less time to spend studying for harder classes.
• The size of the class was awful. I couldn't focus or learn well at all.
• My TA / recitation section
• some parts of lab
• Sometimes, we seemed to get behind in lecture, and have to rush to finish the topics.
• lecture
• skipping through showing some work causes me to stray away and try to figure out what's going on and got put behind in lecture.
• It seemed to be presented very quickly as mentioned above.
• The overdoes of homework
• Though I liked them, I feel i learned the least from flex Friday classes.
• The monsoon of homework
• Some other students in lab were not really attempting to learn.
• There are a lot of people in the lecture and also once you get behind a little it is very very difficult to catch up.
• The amount of homework. I found myself so stressed out that I couldn't really learn the material as much as I wish I could have.
• The labs tended to be more abstract and were more difficult to understand.
• The group project was kind of a pain.
• I did not feel like anything detracted from my learning.
• Well, nothing detracted from my learning of THIS course's material, but the huge amount of work I had to put into this class did detract from my learning of my other classes. I had to spend a disproportionate amount of time working on EF151 work this semester.
• The difference in practive tests to real tests
• Labs

Question #3: What aspects of this class detracted from your learning?

- The sheer amount of material
- The amount of homework and outside effort required to maintain a high grade.
- If anything, some Labs seemed less organized than others, but not to the point of distraction.
- definitions
- none it was all helpful
- The labs were not always very effective
- The lecture time was a bit short for this class. We often were rushed or ran out of time when doing examples or going over new material. This led to a harder understanding of the material.
- I learned so much, favorite class ever, wouldn't change anything
- There were some problems in the homework that were very difficult and the lectures did not provide enough information to solve them easily
- Sometimes the lecture felt so large that it was difficult to focus in on the note taking.
- The lectures
- The large quantity of students
- The amount of time available for lectures didn't seem to be adequate for the amount of material presented.
- Sitting stuck on a homework problem and wasting time. Discussion board is helpful but would be nice if there was something more...
- the excess of homework, i wanted to throw my computer against a wall
- Labs were of little help. They mainly were a place to work on problem examples in groups rather than increasing an understanding of the material.
- the homework
- Lectures could be taught a little better.
- The extremely large lecture class was difficult at first, but the small recitation labs made up for everything lost.
- Because the lecture was 50 minutes long, there were times we didn't get to all of the example problems which presented problems when I encountered problems like them on the homework.
- -
- Clicker questions
- The heavy homework load often forced me to choose getting a good grade over truly learning the material.
- The enormous class sizes
- The amount of time needed to understand the material
- The overwhelming 5+ hours of homework every other night.
- Large numbers of classmates decreases accountability to pay attention in lecture.
- The overload of assignments and forms.
- not explaining examples fully
- The homework was many times more difficult than what we learned in class, so I often wasted several hours on just a few questions.
- At times the velocity of the course in general, however this was my first time taking a physics class.
- The heavy workload killed my desire to focus on learning the material rather than being able to get done with homework.
- I wasn't really used to the slide style notes. I'd much prefer if the notes we got were upright and full page skeleton notes rather than small boxes on a landscape formatted page. I found myself running out of room quite a bit and I have relatively small handwriting.
- The lectures because they did not fully explain their work and often wrote stuff as ""pesky algebra"" instead of fully explaining how to do the work.
- the size of the lecture
- My group of friends
- homework because sometimes I would do the right process and could not figure out why the system would not accept it.
- The Hw.
- The large lecture
- The people in the lecture who were disrupting the people around them.
- random little things I will never have to know again
- Honestly, the labs were the least useful except for the labs where we took a practice exam.
- The aspects of the class that detracted from my learning were the time limit on the test and the environment of which I learn
- the constant switching of 3 professors mid-lecture
- Sometimes the homework questions didn't match what was on the test.

Question #3: What aspects of this class detracted from your learning?
• None
• The lectures were a bit fast paced, and the end of the lectures seemed very fast paced and rushed.
• The excessive amount of homework made it difficult to really enjoy learning and applying the material.
• The amount of work that came with this class, because other classes also had their work and sometimes it just seemed rather overwhelming.
• The lectures and the power point slides were really unhelpful- mostly the power point. I don't care if its fill-in-the-blank. I wasted my time having people read a chapter summary and a couple of problems out loud every lecture since I know how to read a book and I can write my own notes. Plus, the lectures are already recorded online, so why did I need to freeze in a dimly lit auditorium three times a week?
• Sometimes I fall asleep in class.
• The labs did not help as much as they could have.
• Nothing really, I felt like I was always learning.
• small groups in recitation, I know we need to work in teams in the real world, but I got assigned to a group with the same guy every time that only showed up to less than half of the recitations and was more of an annoyance to deal with that kept our groups from performing well
• Lecture was very big and sometimes noisy.
• The strenuous amounts of homework
• Lengthy labs and homework
• Poor lecture notes
• The amount of time it took to do homework
• The final project was fairly high stress due to the short time period to complete it.
• I do not feel as though the labs helped me learn anything. The way that they were set up made it so that if I was struggling, I would continue to struggle through the labs, and I would actually seem to get further behind.
• lectures should be online they go too fast in class and i cant follow we should have the option of flex friday everyday
• The fact that there was so many people there.
• Nothing really.
• Working with people who are unmotivated.
• The final project was a lot of work and a pain, but I don't have a problem with that. I was frustrated, however, by how little it was worth in the overall grade versus how much time and energy went into it.
• I thought the lab could have been a good visual representation, but it was not demonstrated well.
• Lab
• Some of the examples in lab were not relevant to the test.
• Needed the aids always
• I wish the online materials of the subject were more comprehensible.
• Amount of homework.
• Labs, sleeplessness, binder checks
• Amount of work.
• The lab setting did not particularly help my learning
• Too much homework
• The recitations did not really benefit my learning as much. It was more just like another commitment that I had ti deal with rather than doing work for the actual class.
• EF 105 wasted a lot of time I could have been studying for EF 151, which included the main topics hat had to do with my major.
• amount of homework and level of intensity
• LOTS of homework
• Nothing. Really can't complain about the class. Material was difficult for me but the class made it doable.
• The final project, because we were never formaly shown around the workshop, there was very little in class time to finish the project even though it is very big, and we were not told about the poster until just before Thanksgiving a time when nobody wants to be working on school work.
• Video lectures.
• The homework, because it was too time consuming
• The large amount of homework. It got tiresome and unhelpful.
• the EF project, the online worksheets, clicker questions
• The powerpoints were pretty bad. It was a mix of typing and hand writing which made the slides very confusing and hard to follow.

Question #3: What aspects of this class detracted from your learning?

- The long hours spent confused over one homework problem after the next was very distracting. I felt like I did not have time to learn it because there was so much homework that would pile up. I would get help in the tutoring center but they were always too busy and would just have time to get you through the answer and still I would not have any understanding of how that answer was achieved. I worked many homework problems that I still had no idea what I did but somehow got the right answers. For someone who has never had physics before, this class was very fast paced. I was dedicating most of my time to this class and my grade was lowering in others. I had to re-evaluate my time given to this class and I had to share my study time with other classes. This caused my grade on physics test to go down by at least 10 or more points.
- took up most of my time
- Not being able to easily ask questions since it's such a large class.
- missing class
- I don't think there were any aspects that distracted from my learning.

Question #4: What suggestions do you have for improving the class?
<ul style="list-style-type: none"> <li>• Explain more of the problems in module 4.</li> </ul>
<ul style="list-style-type: none"> <li>• More review session</li> </ul>
<ul style="list-style-type: none"> <li>• I would suggest that before labs, the TA's have a session in which they go over the material or even give them a guide to help them to be better prepared for lab sessions. Most of the time the TA was sort of learning as we were and to brief them before the lab would help the lab session to run smoothly</li> </ul>
<ul style="list-style-type: none"> <li>• Give more time for exams.</li> </ul>
<ul style="list-style-type: none"> <li>• Maybe assign a little less homework because I think students eventually just get caught up in just trying to finish any way they can rather than leaning the material.</li> </ul>
<ul style="list-style-type: none"> <li>• Less homework</li> </ul>
<ul style="list-style-type: none"> <li>• The group projects did nothing but confuse and frustrate me. Most of those in my group had already taken the class in highschool and would fly through the examples in lab while others would be left lost because their group would be already onto the next subject. This learning style does not fit an introverted brain at all. An extrovert driven class style can cause many introverts to be very disheartened because they might not think they are as smart (when that is not the case). If I would have known the material from previous classes and then come into the group I feel like I could have done much better. A solution to cater to the introvert side might be some lab time that is not dedicated to always working with a partner but instead having time dedicated to the TA going over review material and answering any gaps in knowledge. Also, the amount of space given for examples in the lecture notes is very small. It seemed to cause confusion in later reviews. Perhaps giving an extra space for the long examples would help. If there were some videos that go over homework problems, I think I would have been able to understand the process better. That way if I just happen to get that answer but don't know how I did it, I could watch a video that explained it to solidify the learning process.</li> </ul>
<ul style="list-style-type: none"> <li>• Even though this isn't really a problem that can be fixed, the sheer number of people in the class was my biggest issue with the course.</li> </ul>
<ul style="list-style-type: none"> <li>• Completely pre-made slides.</li> </ul>
<ul style="list-style-type: none"> <li>• Please consider getting rid of clicker questions. They cost money and only contribute to a small portion of a student's grade. Don't schedule a project during the hardest module in the class. I feel as though many of us tried to focus on studying for the Module 4 test and now we are scrambling to get our projects done in time.</li> </ul>
<ul style="list-style-type: none"> <li>• It seemed good.</li> </ul>
<ul style="list-style-type: none"> <li>• cut down on the amount of homework</li> </ul>
<ul style="list-style-type: none"> <li>• The professors need to be more specific with the examples and not skip things when they assume everyone knows them.</li> </ul>
<ul style="list-style-type: none"> <li>• Although the homework was helpful for understanding important concepts, it was tiring because of its length.</li> </ul>
<ul style="list-style-type: none"> <li>• Explaining Module 4 more in depth</li> </ul>
<ul style="list-style-type: none"> <li>• Start the construction of the final project much earlier and urge everyone to be done with construction and the poster the week before Thanksgiving. The way it is now has everybody rushing to be done the day before it is due.</li> </ul>
<ul style="list-style-type: none"> <li>• Nothing! Love Flex Friday's.. Still can't believe it's an option to not go to class and have an early weekend!</li> </ul>
<ul style="list-style-type: none"> <li>• n/a</li> </ul>
<ul style="list-style-type: none"> <li>• No suggestions.</li> </ul>
<ul style="list-style-type: none"> <li>• Less frequent homework, deeper concept discussions in lab</li> </ul>
<ul style="list-style-type: none"> <li>• Students who have taken physics and excel in it should not be given the same level of expectations as students who have no background in physics</li> </ul>
<ul style="list-style-type: none"> <li>• None</li> </ul>
<ul style="list-style-type: none"> <li>• Less work.</li> </ul>
<ul style="list-style-type: none"> <li>• Make the labs about constructing unique solutions to problems in class, not just extra homework problems. The final project is a good template to follow.</li> </ul>
<ul style="list-style-type: none"> <li>• Make sure everyone really knows the requirements for the final project. There were a bit unclear to me.</li> </ul>
<ul style="list-style-type: none"> <li>• Perhaps more time should have been spent on circular motion as that's probably the section of which I weakest understanding.</li> </ul>
<ul style="list-style-type: none"> <li>• Examinations' reviews please</li> </ul>
<ul style="list-style-type: none"> <li>• Have the test correlate more with the homework.</li> </ul>
<ul style="list-style-type: none"> <li>• Allow for plenty of time to completely explain example problems or concepts in the lecture. There were a few times where they sped through something in the last few minutes of class</li> </ul>
<ul style="list-style-type: none"> <li>• I think the TAs need to be more aware of what they are going to be doing in lab and know what is expected of them.</li> </ul>
<ul style="list-style-type: none"> <li>• Go slower during lecture and explain the steps of the problem more clearly</li> </ul>
<ul style="list-style-type: none"> <li>• Make the final project more influential if it is going to be so much work.</li> </ul>
<ul style="list-style-type: none"> <li>• In lab, students should be able to pick their lab final project group from the people they have previously worked with and performed well with. It is extremely difficult for students to learn and do well on the project with group members who do not care about the class and rarely attend lab. I feel that students would perform much better in groups that they work well in.</li> </ul>
<ul style="list-style-type: none"> <li>• Maybe allow more time for the final project, it just kind of felt rushed.</li> </ul>
<ul style="list-style-type: none"> <li>• Lowering the homework course load.</li> </ul>
<ul style="list-style-type: none"> <li>• lectures should be online they go too fast in class and i cant follow we should have the option of flex friday everyday</li> </ul>

<b>Question #4: What suggestions do you have for improving the class?</b>
<ul style="list-style-type: none"> <li>I do not feel as though the class can be improved much.</li> </ul>
<ul style="list-style-type: none"> <li>Assign the final project 1-2 weeks earlier.</li> </ul>
<ul style="list-style-type: none"> <li>Make examples from class more similar to homework.</li> </ul>
<ul style="list-style-type: none"> <li>Make the notes given out larger with more space to write on</li> </ul>
<ul style="list-style-type: none"> <li>Ok as it is</li> </ul>
<ul style="list-style-type: none"> <li>more examples during discussion</li> </ul>
<ul style="list-style-type: none"> <li>None.</li> </ul>
<ul style="list-style-type: none"> <li>Get rid of assigned small groups and allow students to choose who they would like to work with. I am seriously not joking when I say that the students would work more and do better if they could trust their group they are working with. If this wasn't a entry level class I would not mind the assigned groups in the slightest, but because it is many of the students are not motivated to perform at a college engineering level and it lowers the groups quality of work because of it.</li> </ul>
<ul style="list-style-type: none"> <li>Clearer explanations of steps during lecture example problems.</li> </ul>
<ul style="list-style-type: none"> <li>The labs were not as helpful as I would like.</li> </ul>
<ul style="list-style-type: none"> <li>I can read or listen to a lecture at home, so why do I need to go to class and listen to a professor read to me? I don't feel this method aids learning as most students are too busy writing down the notes to catch any additional information given by a professor. Plus, most professors complain they have too cram so much into barely an hour, so why not relief everyone of this time crunch? Lastly, a lecture is an antiquated model from hundreds of years ago when students didn't have easy access to books. Now, why are we still using this and how are professors not bored saying the same thing over and over year after year? Why not tape it once, post it online, and we come to class and actually learn something like via discussions, group work, or class work. It may have real world applications when we get out of school and need to collaborate with people who have different ideas and approaches to problems then we do.</li> </ul>
<ul style="list-style-type: none"> <li>I think giving more explanations on certain problems on the homework, labs, and exams would be more helpful because some of the explanations given for more complicated problems did not help me understand how one came to this answer or why the answer is right.</li> </ul>
<ul style="list-style-type: none"> <li>I think there should be less homework and more projects. This would allow students to apply what they've learned without an excessive amount of tedious homework.</li> </ul>
<ul style="list-style-type: none"> <li>I think some of the content was beyond the class(learning the integrals of something equals something else), and I think some of the less useful information should be skipped.</li> </ul>
<ul style="list-style-type: none"> <li>Very well done.Preparing me to become an engineer.</li> </ul>
<ul style="list-style-type: none"> <li>Give examples for commonly missed questions on exams.</li> </ul>
<ul style="list-style-type: none"> <li>Help more on the discussion link on the website</li> </ul>
<ul style="list-style-type: none"> <li>This course was really well thought out for the capacity of students taking it, so I do not really have any complaints. It could be possible to have labs optional and not count against you (maybe add incentive?), but it probably is not a valid possibility.</li> </ul>
<ul style="list-style-type: none"> <li>Nothing all three do a great job of making sure every knows what they need to be doing.</li> </ul>
<ul style="list-style-type: none"> <li>I mean, it does a great job of weeding out people that don't belong in engineering, so I don't have anything else to say.</li> </ul>
<ul style="list-style-type: none"> <li>Stop the 2% deduction every time you get a homework answer wrong.</li> </ul>
<ul style="list-style-type: none"> <li>make it a smaller lecture</li> </ul>
<ul style="list-style-type: none"> <li>break it up into smaller lectures</li> </ul>
<ul style="list-style-type: none"> <li>Less Hw. More stimulating labs.</li> </ul>
<ul style="list-style-type: none"> <li>In lecture, focus more on the explanation rather then trying to finish the slide. I know it hurt me and others when it came to homework completion.</li> </ul>
<ul style="list-style-type: none"> <li>Nothing</li> </ul>
<ul style="list-style-type: none"> <li>The examples in lecture to be more like the homework</li> </ul>
<ul style="list-style-type: none"> <li>na</li> </ul>
<ul style="list-style-type: none"> <li>Fully explain the work that you expect us to do on the test because it is because of that that i feel I'm going to get a lower grade in the class then what i deserve.</li> </ul>
<ul style="list-style-type: none"> <li>Change the formatting of the notes and do more visual demonstrations in lecture.</li> </ul>
<ul style="list-style-type: none"> <li>I suggest that the professors learn to put their personal issues to the side when it comes to class because their inability to work together was very apparent.</li> </ul>
<ul style="list-style-type: none"> <li>The homework should gradually add onto what you learn in contrast to throwing four modules worth of knowledge into solving the first problem.</li> </ul>
<ul style="list-style-type: none"> <li>go through entire examples, don't say pesky algebra</li> </ul>
<ul style="list-style-type: none"> <li>A slower pace with better help sessions. More homework help.</li> </ul>
<ul style="list-style-type: none"> <li>More extra credit opportunities (specifically points back on exams.)</li> </ul>
<ul style="list-style-type: none"> <li>Less material in the semester class. It was truly too much information to process in one semester and score well on tests. An entire class of 600 studying thousands of hours for tests combined and making low averages wasn't something I had expected.</li> </ul>
<ul style="list-style-type: none"> <li>have all lecture available online before class lecture</li> </ul>



<b>Question #4: What suggestions do you have for improving the class?</b>
<ul style="list-style-type: none"> <li>• Less or no clicker questions because we never got through the examples fully or well</li> </ul>
<ul style="list-style-type: none"> <li>• -</li> </ul>
<ul style="list-style-type: none"> <li>• I don't know how viable it is to increase the time of the lecture to an hour, but it might help it not feel as rushed toward the end of class.</li> </ul>
<ul style="list-style-type: none"> <li>• Do more examples in class!</li> </ul>
<ul style="list-style-type: none"> <li>• make the homework and review problems more like the test</li> </ul>
<ul style="list-style-type: none"> <li>• I would possibly do more examples.</li> </ul>
<ul style="list-style-type: none"> <li>• TA's and Labs should be less frequent for the purpose they serve.</li> </ul>
<ul style="list-style-type: none"> <li>• make sure you go over all the components of questions thoroughly during lecture so we know how to do everything.</li> </ul>
<ul style="list-style-type: none"> <li>• N/A, good fun class</li> </ul>
<ul style="list-style-type: none"> <li>• Finding a way to fit the material to the time available would greatly improve the course.</li> </ul>
<ul style="list-style-type: none"> <li>• No comment</li> </ul>
<ul style="list-style-type: none"> <li>• Only suggestion that I have would be in the labs to not assign the more difficult labs right after groups change. It seemed to make those labs even more difficult with students not being used to working with the other students in the group. Maybe have it to where the more involved and difficult labs take place after students have been together for one or two classes.</li> </ul>
<ul style="list-style-type: none"> <li>• Practicing more problems during lectures.</li> </ul>
<ul style="list-style-type: none"> <li>• Keep homework more focused on questions that are similar to those that will be on the tests</li> </ul>
<ul style="list-style-type: none"> <li>• I wouldn't change one thing</li> </ul>
<ul style="list-style-type: none"> <li>• Give more time in lecture to go over the examples in more depth. Do not rush through equations because not all students can pick up how to use them by just seeing them.</li> </ul>
<ul style="list-style-type: none"> <li>• The lectures were sometimes hard to pay attention to</li> </ul>
<ul style="list-style-type: none"> <li>• do a few more complex examples in lecture</li> </ul>
<ul style="list-style-type: none"> <li>• test knowledge of definitions to create a deeper understanding and a formal meaning</li> </ul>
<ul style="list-style-type: none"> <li>• Maybe teaching to two different groups, those who have had some physics before and those who did not.</li> </ul>
<ul style="list-style-type: none"> <li>• more homework examples and how a little more steps.</li> </ul>
<ul style="list-style-type: none"> <li>• don't make such a time demanding final project</li> </ul>
<ul style="list-style-type: none"> <li>• Besides running short on time in lecture, the class was excellent, and I see no immediate way to improve it.</li> </ul>
<ul style="list-style-type: none"> <li>• make lab more organized</li> </ul>
<ul style="list-style-type: none"> <li>• I see that repetition of coursework is important in classes like this but I still think the amount of homework was a little excessive.</li> </ul>
<ul style="list-style-type: none"> <li>• Break up the class into smaller ones. The students will learn so much more.</li> </ul>
<ul style="list-style-type: none"> <li>• It is excellent as is.</li> </ul>
<ul style="list-style-type: none"> <li>• I understand that the homework is necessary to do well in the course, and I very much like how the homework builds upon lecture and aligns with the exams. However, the specific format in which we are required to complete the assignments drastically inflates the time it would normally take to complete them. I have completed most assignments directly using the Given, Required, Strategy, Solution format, as well as working just the Solution on scrap paper and transcribing my work in the proper format later. It typically took me 2-3 hours to do the former, and significantly less time (about 1 hour) to do the latter. I obtained the solutions using both methods; the only difference between the two are the format in which I recorded my work. I believe it is an over-complicated means of requiring portfolio organization. Aside from the mandatory organization requirements, everything else about the class is excellent. The 10% extra credit available for completing the homework early is a great incentive to finish homework on time or early, and to keep up with the work. The 2% try penalty also prevents aimless guessing and promotes actual learning. Additionally, the website is extremely useful, especially the past exams and videos.</li> </ul>
<ul style="list-style-type: none"> <li>• List this class in combination with EF-105 and make it worth 6 credit hours. The amount of work in this class combined with 105 is much greater than any 4-hour + 1-hour course.</li> </ul>
<ul style="list-style-type: none"> <li>• Smaller lecture sizes and more learning incorporated into the labs</li> </ul>
<ul style="list-style-type: none"> <li>• Have better timed lectures. Running over is really terrible. I have so much walking to do in between and when you hold us over 5 minutes it doesn't help</li> </ul>
<ul style="list-style-type: none"> <li>• Something I think might be a good idea is if there is, for example, a particular homework problem that many people are missing or having trouble with, supplementary short videos (akin to flex Friday lectures) to explain that particular problem would be nice.</li> </ul>
<ul style="list-style-type: none"> <li>• For the hints on the homework, telling you to go to the book was not all that helpful.</li> </ul>
<ul style="list-style-type: none"> <li>• Take out the group project.</li> </ul>
<ul style="list-style-type: none"> <li>• More TA help in lab</li> </ul>
<ul style="list-style-type: none"> <li>• Lighten up on the homework. Or, make the lectures more helpful.</li> </ul>
<ul style="list-style-type: none"> <li>• Go a little slower on the harder topics.</li> </ul>

Question #4: What suggestions do you have for improving the class?
<ul style="list-style-type: none"> <li>For someone who took physics in high school, I could grasp what was taught in the auditorium. For people who had not taken any physics, I can see how learning in such a large setting was. Help sessions make up for this I suppose. Maybe more demos could help those who struggled.</li> </ul>
<ul style="list-style-type: none"> <li>The last bit of the class seemed really rushed to me and I don't think I understand the most recent material as well as I need to. I think I would have preferred if less time was spent on the first unit to give more time to the fourth unit.</li> </ul>
<ul style="list-style-type: none"> <li>I think it would be beneficial to have lab times on Mondays and Wednesdays before and after lectures.</li> </ul>
<ul style="list-style-type: none"> <li>more help with the homework</li> </ul>
<ul style="list-style-type: none"> <li>Slow down the content</li> </ul>
<ul style="list-style-type: none"> <li>Make it less childish. Binder checks are just outrageous, this is not primary school anymore. People should have their own ways of organizing their binders by now and it just seems silly that this class required them to be in a specific format when some people do not like organizing their things like that. Another thing that bothered me was the fact that the homework had to be in a very specific format that just wasted time and made the homework take more than twice as long as it would if you just did it without writing it out specifically as they want it to be.</li> </ul>
<ul style="list-style-type: none"> <li>Nothing. You guys kill it.</li> </ul>
<ul style="list-style-type: none"> <li>Slow down and explain like you are teaching someone that doesn't know it. I felt in lecture like I was expected to already fully grasp concepts that I have never seen.</li> </ul>
<ul style="list-style-type: none"> <li>More organized lectures, and my TA wasn't the best in ef lab.</li> </ul>
<ul style="list-style-type: none"> <li>Lectures could be slower to better understand the material.</li> </ul>
<ul style="list-style-type: none"> <li>Make the homework shorter and have it a lot more relevant to the lecture concepts. I felt as if a lot of problems had a large gap from the concepts we discussed in class.</li> </ul>
<ul style="list-style-type: none"> <li>Make homework less tedious</li> </ul>
<ul style="list-style-type: none"> <li>Maybe add more interest to lectures</li> </ul>
<ul style="list-style-type: none"> <li>I just wish I had the competency to excel in this class, but there's no problem with it</li> </ul>
<ul style="list-style-type: none"> <li>Get rid of Rachel McCord. She was rude and couldn't teach at all.</li> </ul>
<ul style="list-style-type: none"> <li>Put more IMV checks on homework, explain examples that relate more to the homework in class.</li> </ul>
<ul style="list-style-type: none"> <li>start the final project a little sooner</li> </ul>
<ul style="list-style-type: none"> <li>Make lab only be one day a week. That was valuable time I could have been using to do homework, and instead I was stuck doing work that didn't really help me understand the content anymore.</li> </ul>
<ul style="list-style-type: none"> <li>Concept questions in homework.</li> </ul>
<ul style="list-style-type: none"> <li>Not much other than maybe switching lab and lecture</li> </ul>
<ul style="list-style-type: none"> <li>Go slower at the end of class.</li> </ul>
<ul style="list-style-type: none"> <li>Great class</li> </ul>
<ul style="list-style-type: none"> <li>The homework was often unrelated or not covered in lecture and would make the task much more difficult. Not often, but sometimes lectures did not keep pace with homework or did not explain concepts clearly or thoroughly enough with respect to the homework, and so the homework sometimes was more time consuming than it had to be.</li> </ul>
<ul style="list-style-type: none"> <li>A revision of the lecture presentations might be beneficial in teaching material more effectively and with more engagement with the students while also ensuring all concepts are adequately explained.</li> </ul>
<ul style="list-style-type: none"> <li>I would continue using the homework site (I really liked it) because it was helpful to have a discussion board and hints with certain questions.</li> </ul>
<ul style="list-style-type: none"> <li>Better explanations!!! Sometimes hard to follow. Show more work!!!</li> </ul>