University of Pittsburgh

Spring 2020 - Matthew Barry MEMS 0031 - ELECTRICAL CIRCUITS - 1050 - Lecture

Project Title: **2204 - Teaching Survey Spring 2020**

Courses Audience: **55**
Responses Received: **54**
Response Rate: **98.18%**

Subject Details	
Name	MEMS 0031 - ELECTRICAL CIRCUITS - 1050 - Lecture
DEPARTMENT_CD	MEMS
CAMPUS_CD	PIT
SCHOOL_CD	ENGR
CLASS_NBR	14584
SECTION_NUMBER	1050
TERM_NUMBER	2204
COURSE_TYPE	Lecture
CLASS_ATTRIBUTE	
First Name	Matthew
Last Name	Barry
RANK_DESCR	Assistant Professor
TENURE	NT

Report Comments

Student Opinion of Teaching Survey – Instructor Report
Report Guidelines for Spring/Summer 2020

Provost Cudd has provided guidelines for Student Opinion of Teaching Surveys for Spring and Summer 2020.

No copy of this report will be released to anyone other than the individual faculty member. If you choose to provide a copy of this report to your dean, chair, or other administrator, you may download a PDF copy to send.

Additional questions were added at the request of the Office of the Provost to surveys completed after March 23rd in order to gather student input about the remote learning experience.

Included in this report:
- Responses to Remote Instruction and Learning Questions
- Numerical results to Likert scaled items - Summary and Detailed Result
- Responses to Comments or Open-ended Questions
- Responses to additional School or Department Questions (if applicable)
- Responses to additional QP/Custom Questions (if applicable)

Collect student feedback early next term.
Read more about Midterm Course Surveys and the OMET option.

Creation Date: **Wednesday, June 03, 2020**

Remote Instruction and Learning Questions

Students were asked to provide feedback about the move to remote instruction and learning as part of the University's response to the COVID-19 pandemic.

Instructor Interaction - Scale: Strongly Disagree (1) to Strongly Agree (5)

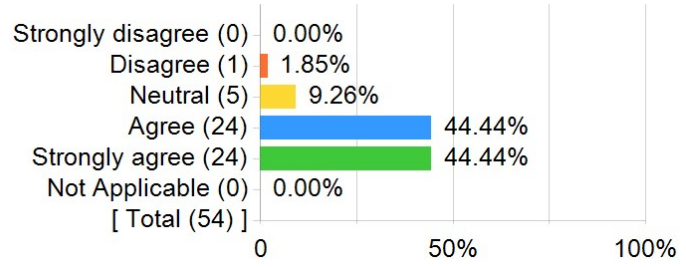
Question	Results		
	Response Count	Mean	Standard Deviation
I was able to interact effectively with the instructor after the course changed to remote instruction.	54	4.31	0.72

Course Resources - Scale: Strongly Disagree (1) to Strongly Agree (5)

Question	Results		
	Response Count	Mean	Standard Deviation
I had the resources I needed to finish my coursework when the course was changed to a remote instruction format.	54	4.17	0.69

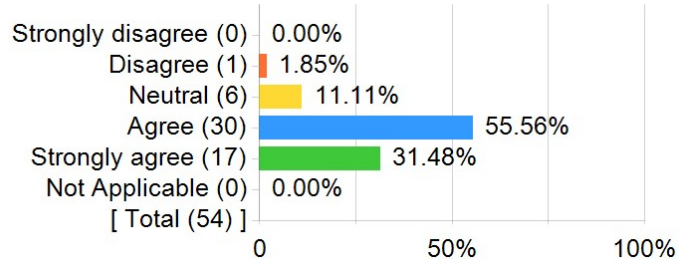
Instructor and Course Details

1. I was able to interact effectively with the instructor after the course changed to remote instruction.



Statistics	Value
Invited Count	55
Response Count	54
Response Ratio	98.18%
Mean	4.31
Median	4.00
Mode	4, 5
Standard Deviation	0.72

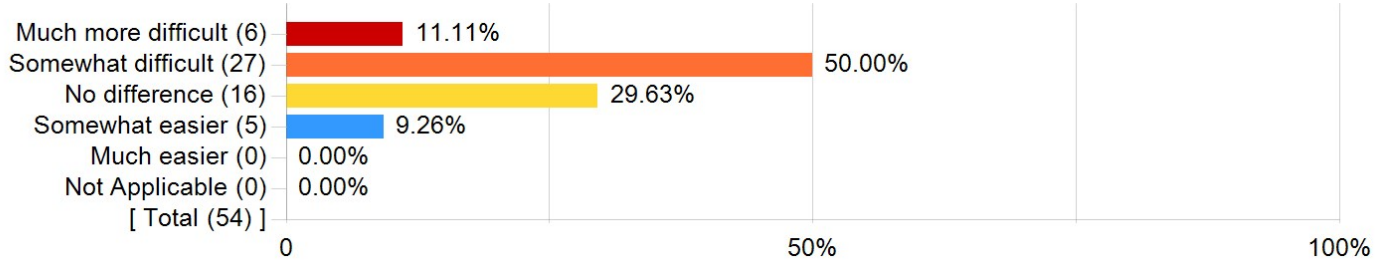
2. I had the resources I needed to finish my coursework when the course was changed to a remote instruction format.



Statistics	Value
Invited Count	55
Response Count	54
Response Ratio	98.18%
Mean	4.17
Median	4.00
Mode	4
Standard Deviation	0.69

Move to the remote environment - Scale: Much more difficult (1) to much easier (5)

Moving to the remote environment made it (blank) for me to learn.



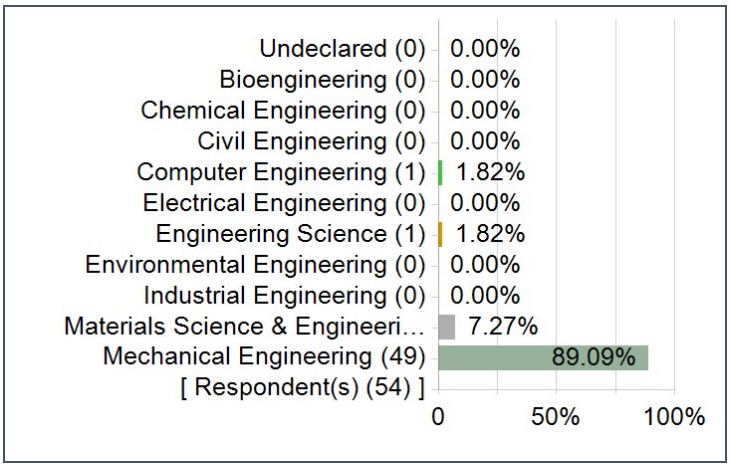
Statistics	Value
Invited Count	55
Response Count	54
Response Ratio	98.18%
Mean	2.37
Median	2.00
Mode	2

What do you think the University should know about your experience as a student in the current remote learning situation?

Comments
It’s not fun
Most of my professors were very prepared and were immediately able to make the transition to online learning styles.
It was easy to transition because the majority of the lectures were on video to begin with
Remote learning has made it difficult to learn given that I lack a lot of the focus at home that I have at school. The environment is not as conducive to learning and there are many more distractions at home than there are at school.
The remote learning situation at Pitt was treated like it was a work–from–home initiative instead of working through a pandemic. Many teachers were unyielding and even made school more difficult by holding students to the same standards in substandard conditions. Professor Barry did his best to alleviate the stress of his students and offering plenty of office time, for which I am thankful. It became more difficult through remote learning because I could not conceptualize our work as well without the circuit boards we used.
Dr. Barry made it extremely easy for us to transition to remote learning.
My classes had a pretty good transition. Although working at home definitely makes me less efficient with my time and I miss the in–person interaction with my TAs, peers, and friends.
I miss the structure provided by typical classroom settings; many of my classes are available at my leisure, but I would have preferred scheduled lectures.
It really sucks to not be able to continue doing breadboarding because that really helped me learn about circuits.
N/A
The labs in this class were an integral part of the class, and moving to remote learning stifled that part due to the hands–on nature of the labs.
We had to build actual circuits before spring break. Obviously we can no longer do that.
consider finding a better video hosting service than panopto
nothing
I found it more difficult to learn in a remote setting from home as there were more distractions. If professors could make the lecture content recorded and available online for viewing anytime, this would help to improve the remote learning experience. Dr. Barry was able to do this very effectively while providing a surplus of practice and example problems to keep learning effective even from home.
I think it would have been more effective to have actual "recitations" instead of office hours since I found that while I didn't really have questions that I couldn't answer myself while at home, being in class/recitation around people asking questions helped me understand the material faster and more effectively.
The last two weeks of material were not put up on courseweb, limiting students access
a significant part of traditional learning is left out online, which made it much harder to learn.
I struggle to concentrate when doing work, thus taking longer then usual things
I understand that options are limited, but it's just not applicable to label remote learning as an equivalent to traditional instruction in terms of the quality of learning
I started a full time job as soon as school was moved remotely
Lost the benefit of asking questions in person. Made it more of a self–taught experience. Not blaming anyone just how it ended up due to circumstances
I don’t think it hugely impacted my ability to learn
Online classes benefit from a "flipped" structure rather than traditional lecturing.
Much of the difficulty of remote learning comes from the lack of collaborative setting.
Lack of structure made it hard to keep track of everything
Even though we are at home now, we don’t have more time for school. We are just as busy.
I think it was overall a challenge for many students, but I believe the school did a good job transitioning given the time frame.
n/a

Swanson School of Engineering Major/Program Area

Please select the major you are enrolled in. Check at most 2 programs. If you are currently a freshman or an undeclared major, select your anticipated major from the list (or select Undeclared if you are unsure).



University Questions

Instructor Summary of Results - Scale: Strongly Disagree (1) to Strongly Agree (5)

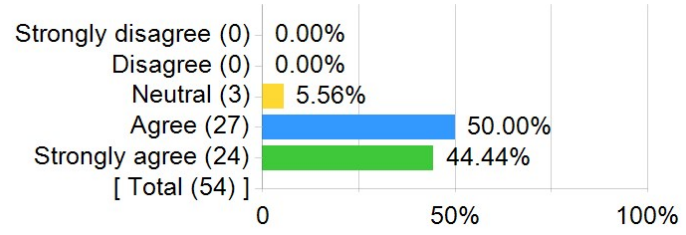
Question	Results		
	Response Count	Mean	Standard Deviation
The instructor stimulated my thinking.	54	4.39	0.60
The instructor was enthusiastic about teaching the course.	54	4.06	0.88
The instructor presented the course in an organized manner.	54	4.19	0.89
The instructor maintained an environment where students felt comfortable participating.	54	4.11	0.90
The instructor maintained an environment where students felt comfortable seeking assistance.	54	4.13	0.83
The instructor provided helpful feedback.	54	4.09	0.81
Assignments contributed to my understanding of the subject.	53	4.15	0.99
Overall	-	4.16	0.85

Instructor's overall teaching effectiveness

Question	Results		
	Response Count	Mean	Standard Deviation
Express your judgment of the instructor's overall teaching effectiveness.	54	3.98	0.98

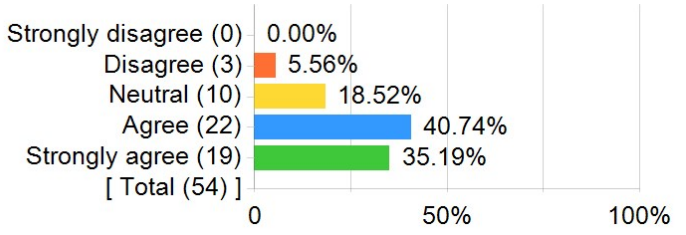
Instructor Items: Detailed Results

1. The instructor stimulated my thinking.



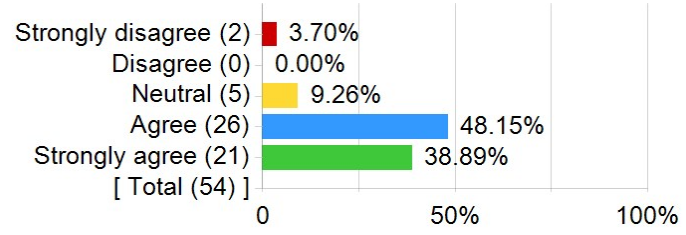
Statistics	Value
Invited Count	55
Response Count	54
Response Ratio	98.18%
Mean	4.39
Median	4.00
Mode	4

2. The instructor was enthusiastic about teaching the course.



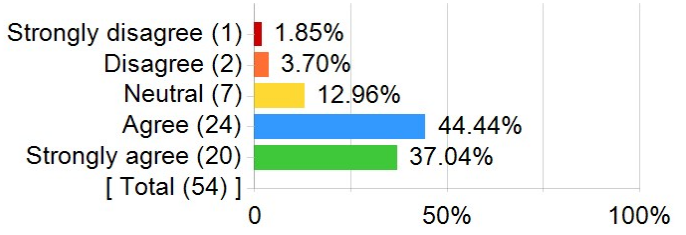
Statistics	Value
Invited Count	55
Response Count	54
Response Ratio	98.18%
Mean	4.06
Median	4.00
Mode	4

3. The instructor presented the course in an organized manner.



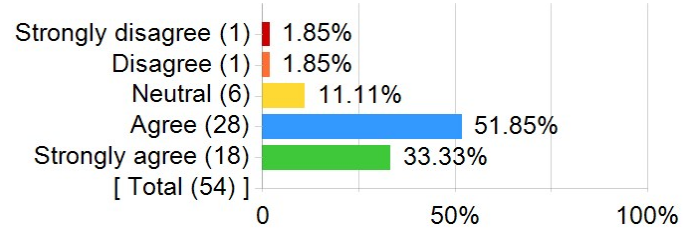
Statistics	Value
Invited Count	55
Response Count	54
Response Ratio	98.18%
Mean	4.19
Median	4.00
Mode	4

4. The instructor maintained an environment where students felt comfortable participating.



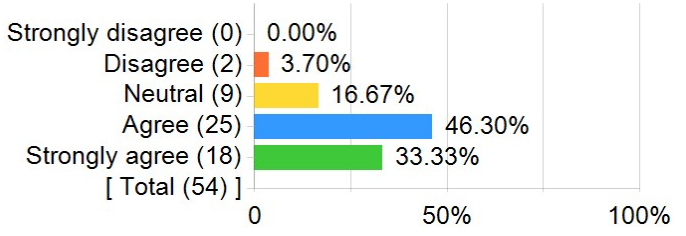
Statistics	Value
Invited Count	55
Response Count	54
Response Ratio	98.18%
Mean	4.11
Median	4.00
Mode	4

5. The instructor maintained an environment where students felt comfortable seeking assistance.



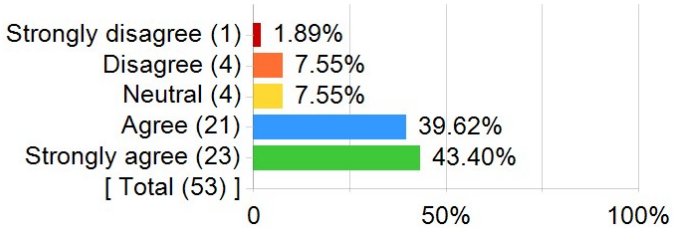
Statistics	Value
Invited Count	55
Response Count	54
Response Ratio	98.18%
Mean	4.13
Median	4.00
Mode	4

6. The instructor provided helpful feedback.



Statistics	Value
Invited Count	55
Response Count	54
Response Ratio	98.18%
Mean	4.09
Median	4.00
Mode	4

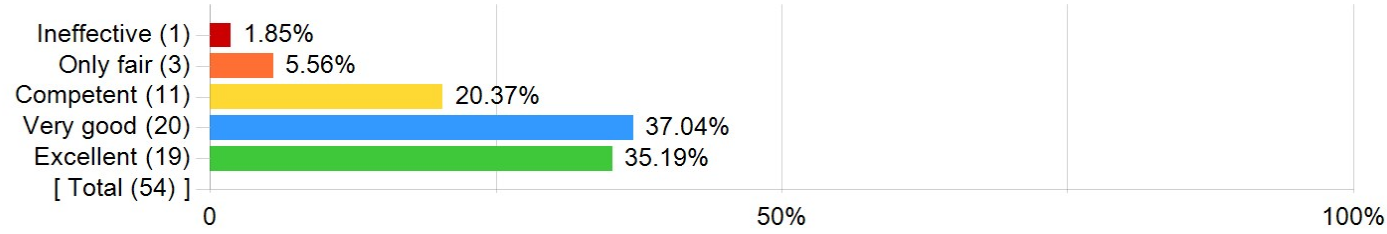
7. Assignments contributed to my understanding of the subject.



Statistics	Value
Invited Count	55
Response Count	53
Response Ratio	96.36%
Mean	4.15
Median	4.00
Mode	5

Instructor's overall teaching effectiveness:

Express your judgment of the instructor's overall teaching effectiveness.



Comments

What did the instructor do to help you learn?

Comments
Extra problems were nice
Prior to spring break the design projects were amazing as a hands–on learning experience. They greatly increased my understanding of the concepts and really forced me to dig deeper into the content.
examples
He was excited when coming to class, seems to enjoy teaching this subject
Dr. Barry made sure I learned to use resources as my disposal to supplement my knowledge since many times lecture alone was not enough for me to comprehend the material.
He gave us hard homework and quizzes and had faith in his students to do well and try hard. He also worked to get us circuit boards so we could do real–life design problems.
He challenged us but made it possible for us to excel.
HW was hands–on assignments that help contribute to understanding
He made himself available to ask questions and get help when needed.
Lots of practical knowledge to take away from the class and use in real life. Learned a lot more than friends i had in the other section.
Made lecture videos short and to the point, provided practice probs in class, extended his office hours once the social–distancing began, got a good TA for the course, and added circuit–building labs to help us get a feel for applying the concepts.
Utilization of class time for worksheets when doing the flipped lectures was really good.
Motivational
The labs were a fantastic idea, I really hope you continue to do these in the future.
his videos for op amps were very helpful i thought that was a tough topic
The design projects really helped me understand how circuits on paper translate to real life. The flipped format also helped because were able to ask questions as a class and learn from each other's misunderstandings.
Presented the material in an interesting way
Organized hands on circuitry labs every week that were very helpful in understanding the concepts behind the class.
Explained the material effectively, gave helpful examples, and assigned hands–on projects that were both fun and contributed to understanding
Challenge me
Assigned creative homework assignments. Unfortunately they did not translate well to exams.
Both theory and application regarding electrical circuits. The lab portion of the class pre pandemic was very helpful for learning.
He encouraged questions while doing problems in class and was always available for office hours, even more so after the course went online.
Video Lectures
Providing lots of study/practice resources on courseweb
went over worksheets in class that reviewed recent material.
Gave hard examples to help us prepare for tests
The basic fundamentals of electrical circuits
assigned design projects each week that challenged my thinking and really improved my problem solving skills. I like how this course challenged me and It was very interesting
Hands on projects
Provided helpful examples in class.
Assignments were hands on, real world questions that were difficult but definitely helped me to learn the material
make complicated in person labs to help understand the concept
Made lots of materials available to help us learn and study. Also liked the labs before we got kicked out of school
Hands–on Projects are amazingly more helpful than practice problems out of a book.
Design projects, in class worksheets, office hours, old homeworks

Comments
Good lectures
Assignments required more in–depth thinking
See relations between things a little easier.
He pushed us to further our knowledge and understanding.
Giving us worksheets to do in class as a group was very helpful as we could dissect the circuits in different ways.
Very organized and effective lecturer
We had the labs to help us learn how circuitry worked in real life, which gave me a better understanding than only doing book problems.
Did a very good job teaching us how to develop our problem solving skills.
Lecture videos were concise but comprehensive. I felt that I had a solid understanding of the course material after watching them. Providing old homeworks was helpful, especially after switching to a project–based approach. I would like to emphasize the dramatic change that occurred with the online shift. The exams were still challenging, but not having the time limit of a traditional exam I feel was much more reflective of my ability. The test was longer, but it tested everything to some extent, which a fifty minute exam struggles to do. I felt that having the time to thoroughly check my work before submitting put my mind at ease, and I think my score better reflected how well I actually knew the material in its entirety. I liked the handouts that we got for NVA, MCA, and Thevenin and Norton, but I wished we had had the same for some other topics.
the way he shows how to work problems really helps
I loved the flipped classroom because I like taking my time listening to class notes and sometimes need to rewatch something. I also really enjoyed the group projects but I do not think they helped with preparing for exams.

What could the instructor do to improve?

Comments
Lectures and videos are vastly different. I feel like I get more out of a lecture than your videos
More difficult examples during class time. Even though the flipped lecture videos are short, I think most do a fairly good job of getting the concept across through the examples and concept videos. There are a few concepts (NVA, MCA, and open circuit Voltage/ short circuit current stick out the most) that could improved through one or two more examples of higher intricacy.
Provides worksheets with good problems, but doesn't always post solutions.
If he were more consistent, that would help. Before the quarantine, he planned to change the style of class from video lectures outside class to regular delivered lectures, which disrupted the way I had gotten accustomed to learning the material.
He could lower his expectations slightly
I can't think of anything
Provide more resources for materials that will help students prepare for how his exam is formatted. (time constraint, etc.)
Definitely do more problems in class rather than have time for students to ask questions. Would have much rather preferred that
The design projects didn't always relate well to what we were actually doing in class.
Cover topics related to the first design project in class; we only briefly covered switches.
N/a
make more jokes
Doing worksheets together as a class because many people were at different places in learning and some struggled while others flew through it.
Talk a bit more about the subjects in class as opposed to only explaining examples
Give more partial credit sometimes. This definitely doesn't need to be all the time, but many of the assignments could feel like an all–or–nothing challenge where even the slightest mistake could cost you everything.
we know we're bad students, you don't need to dunk on us constantly
Stay on pace with the syllabus
Assign homeworks that reflect what we will be tested on. Additionally, inform students that the class will be flipped before they enroll in the course.
Old exam questions to supplement the practice problems
Work through harder examples?
make assignments more relevant to topics and learning.
Harder inclass examples

Comments
more practical examples
nothing
make a few practice problems mandatory
More leniency with credit for work. I found many assignments were either given an A or an F, not much in between
Be more organized
Not sure
More hands–on projects could be added.
Not sure if there is time but since our homework was in the Makerspace, it would be helpful if we either did more problems from in class worksheets together during class or had solutions posted for those, or had book problems assigned for completion like we are doing now.
Better assignments (book assignments)
Post the annotated slides
Before remote learning, use class time more effectively to convey material a little better. Maybe do a brief explanation of material at the beginning, take questions people had then go through a worksheet.
Recommending certain exercises in the textbook would help so we could practice more.
Less sarcasm, more accepting attitude toward struggling students.
I think he could maybe explain concepts a little slower or touch more on topics because this course is very non–intuitive. Sometimes, I feel like he breezed through concepts and while I thought to understand what he was doing, quickly found myself confused when I tried to do problems myself and having no explanation in my notes beyond what Barry said it was during lecture.
Post the in class worksheet answers.
Quite simply, I feel that the grading for certain types of problems should be reconsidered in the future. I simply forgot to carry a constant to the RHS of an augmented matrix that resulted in over 20% of the exam points being lost simply because I didn't have the correct numerical values for MCA. I understand that this is simply an applied algebra problem, but I don't think the points should be as binary as they are sometimes. Additionally, I didn't feel that the design projects helped me understand better than normal homework would. I worked very hard on the black box one to write a good Matlab code that worked and produced the right combination of resistors. I then proceeded to lose over half the points on the resistance problem on the first midterm. I would have preferred to have had more practice in analytically solving these kinds of problems.
Assign book homework each week because that would get me to do more practice problems

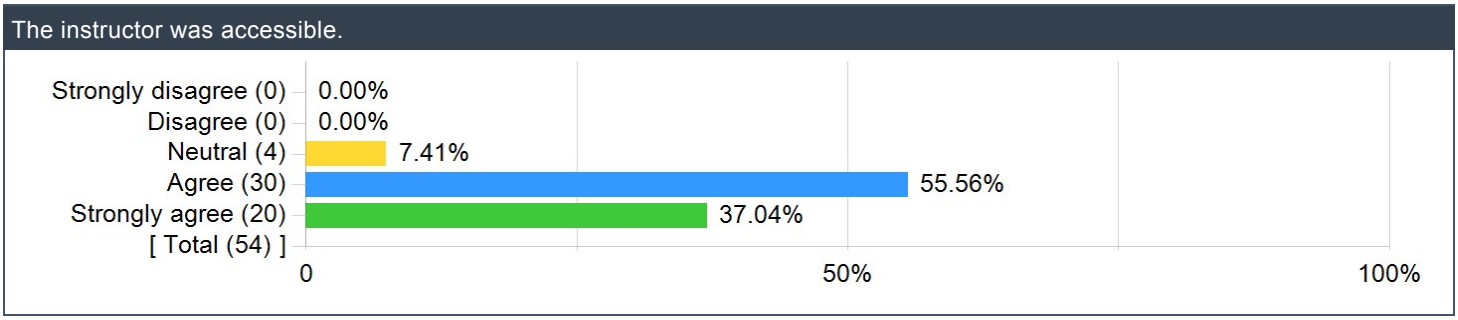
Do you have any other information that you would like your instructor to know?

Comments
nope
12/10 would choose to take a class you teach over one taught by a different professor.
Nah
N/A
This course has been very challenging for me, and i will admit there were times when I wished I was in the other section, but I will honestly say that I have learned more through the whole course and actually absorbed practical knowledge than I have in the large majority of classes I have taken here at Pitt, and that's something to appreciate in my mind.
Nah
Did you get any results from comparing our exam to the other class?
You're my favorite professor at Pitt. I really like your teaching style and how you challenge us a lot more than the other sections of this course, which helps to make us better students and engineers.
The class is challenging but rewarding.
N/A
Compared to statics 1, this class definitely feels like one of his strong suits. Was a lot more enjoyable than the former as well.
your flipped course format was good, you should continue it even though it got interrupted partway through
Be more friendly to students. Often he is unnecessarily hostile.
Thank you for making a this course very informative and fun to learn even after the change to remote learning.
I really liked doing the design projects. They were tedious at times, but it made me understand circuits concepts much easier than just looking at lines on a piece of paper.
online learning is not productive without set class times, because we have nothing to check our understanding with.
I enjoyed doing the design projects as they helped me understand the material better because i was able to do physical examples
It’s ok if the exam average is a passing grade
Please keep this approach, it made my understanding of circuits much easier and less stressful.
N/A
Nah
Makerspace was good experience but was very time consuming. Paper homework would have helped me do better on exams.
No
n/a

ENGINEERING

Swanson School of Engineering Items

The instructor was accessible.



Please provide advice to future students: What could you have done to improve your learning in this course?

Comments
Don’t take him
I could have spent more time in office hours and doing more practice problems from the book. Other than that I feel very prepared for exams from basic class material and some independent practice.
Do book problems, it helps.
Read the textbook and do the homework and worksheets Dr. Barry posts because sometimes you won't get how to do problems just from the way Dr. Barry teaches.
Never take his courses lightly, it's ultimately up to you to do everything.
Gone to his office hours sooner.
Definitely go to office hours if you are struggling on the exams.
DO THE BOOK PROBLEMS!!! Cannot stress enough how important doing additonal problems is in circuits. Never before have I had to do so much practice on my own to understand concepts (but when you finally do it's worth it).
Utilize your TA's more. Arsha rocks.
Utilize office hours effectively.
make sure to do the extra book problems Barry provides
Do more example problems on my own.
Pay close attention to the videos provided.
Get the concepts and get them quick. This class relies on you being able to apply a handful of moderately complex methods in an efficient manner, so getting them early is essential.
Go to office hours kids
make sure to watch the videos on time
office hours
Study harder and read the books. The assignments do not translate well to exams.
Make use of office hours. Dr. Barry is eager to help all of his students succeed, especially those who are willing to put in the extra work when struggling.
I would have taken more thorough notes initially while watching lecture videos rather than taking light notes and more notes during class time
do lecture examples during the video and use the solution as a check.
practice more, so i take less time to do problems and not rush
read the textbook
Dont fall behind
Go to office hours often
Used the resources in the textbook more
WATCH LECTURES AND DO HOMEWORK. PRACTICE PRACTICE PRACTICE
Do more book problems
Book priblems
Do all the work
Go to office hours
Doing the old homeworks posted was a helpful way to study for the exams.
Consistently try hard, utilize the resources available to you, don't get lazy
Do the old homeworks to test your understanding, stay on top of topics because they all build off of each other.
n/a
Make a concerted effort to understand the videos beyond just watching them, do the old homework, read the book, and do book problems.
stay up top of the work and never get behind, practice, practice, practice
I loved this class but I remember having a very hard time during the NVA and MCA unit. I went to office hours which helped A LOT and did a bunch of practice from the books. I also watched a ton of videos.

ENGINEERING UNDERGRAD

Please rate the degree to which this course has improved...

Question	Results		
	Response Count	Mean	Standard Deviation
Your ability to identify, formulate, and solve complex engineering problems by applying principles of engineering.	54	4.00	0.78
Your ability to identify, formulate, and solve complex engineering problems by applying principles of science.	54	3.85	0.86
Your ability to identify, formulate, and solve complex engineering problems by applying principles of mathematics.	54	3.96	0.87
Your ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare.	52	2.79	1.09
Your ability to apply engineering design to produce solutions that meet specified needs with consideration of global, cultural, and social factors (i.e., sustainability principles).	54	2.67	1.13
Your ability to apply engineering design to produce solutions that meet specified needs with consideration of environmental and economic factors (i.e., sustainability principles).	54	2.63	1.10
Your ability to effectively communicate verbally with a wide range of audiences.	54	2.87	1.05
Your ability to effectively communicate in writing to a wide range of audiences.	54	3.00	1.03
Your ability to recognize ethical and professional responsibilities in engineering situations.	52	2.79	1.16
Your ability to make informed judgments that consider the impact of engineering solutions in global and societal contexts (i.e., sustainability principles).	54	2.69	1.11
Your ability to make informed judgments that consider the impact of engineering solutions in economic and environmental contexts (i.e., sustainability principles).	54	2.65	1.07
Your ability to function effectively on a team whose members together provide an inclusive environment, collaboration, and leadership.	54	3.89	0.74
Your ability to function effectively on a team whose members together establish goals, plan tasks, and meet objectives.	54	3.89	0.74
Your ability to develop appropriate experiments.	54	3.85	0.90
Your ability to conduct appropriate experiments.	54	3.81	0.89
Your ability to analyze and interpret data and use engineering judgment to draw conclusions.	54	4.04	0.82
Your ability to embrace new learning strategies to independently acquire and apply new knowledge to solve engineering problems.	53	4.13	0.76