



University of Pittsburgh

# Summer 2020 - Lee Dosse MEMS 0051 - INTRODUCTION TO THERMODYNAMICS - 1030 - Lecture

Project Title: **2207 - Teaching Survey Summer 2020**

Courses Audience: **45**

Responses Received: **43**

Response Rate: **95.56%**

## Subject Details

Name	MEMS 0051 - INTRODUCTION TO THERMODYNAMICS - 1030 - Lecture
DEPARTMENT_CD	MEMS
CAMPUS_CD	PIT
SCHOOL_CD	ENGR
CLASS_NBR	13611
SECTION_NUMBER	1030
TERM_NUMBER	2207
COURSE_TYPE	Lecture
CLASS_ATTRIBUTE	
First Name	Lee
Last Name	Dosse
RANK_DESCR	
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 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)

See our guide - [Understanding Your Report](#) - for more details about interpreting your results.

**Collect student feedback early next term.**

[Read more about Midterm Course Surveys and the OMET option.](#)

Creation Date: **Tuesday, September 29, 2020**

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## 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)

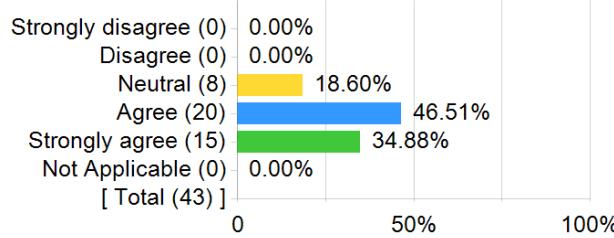
Question	Results		
	Response Count	Mean	Standard Deviation
I was able to interact effectively with the instructor during this term's remote instruction.	43	4.16	0.72

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

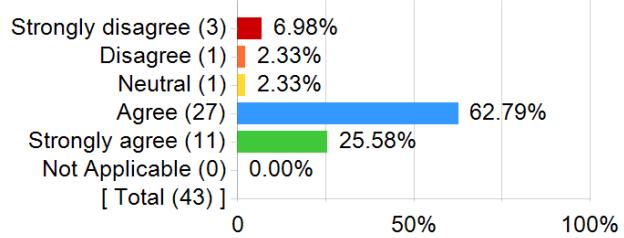
Question	Results		
	Response Count	Mean	Standard Deviation
I had the resources I needed to finish my coursework in this term's remote instruction format.	43	3.98	1.01

## Instructor and Course Details

1. I was able to interact effectively with the instructor during this term's remote instruction.



2. I had the resources I needed to finish my coursework in this term's remote instruction format.

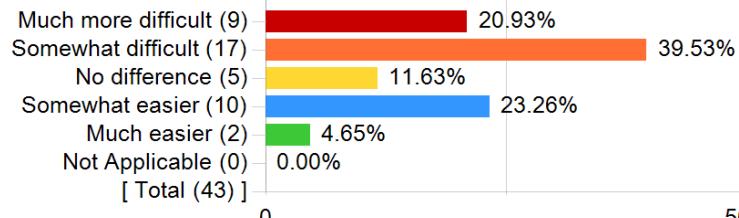


Statistics	Value
Invited Count	45
Response Count	43
Response Ratio	95.56%
Mean	4.16
Median	4.00
Mode	4
Standard Deviation	0.72

Statistics	Value
Invited Count	45
Response Count	43
Response Ratio	95.56%
Mean	3.98
Median	4.00
Mode	4
Standard Deviation	1.01

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

Taking this course in a remote environment made it (blank) for me to learn.



[ Total (43) ]

Statistics	Value
Invited Count	45
Response Count	43
Response Ratio	95.56%
Mean	2.51
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

For Projects, It really hurts when two people with poor internet get assigned to the same team because it makes it twice as hard to interact online, especially in meetings.

If I know ahead of time that I'm remote learning I can prepare

Remote learning is more difficult, but still possible. Having recorded lectures ahead of time, or what a structure that before remote learning was called "flipped" classes are best way to go about the situation in my opinion. This class did a good job of being flipped.

Remote learning has been challenging to adapt to, specifically in the workload between a full semester's course load is much more difficult to handle remotely than while on campus

N/a

Take home exams were well designed, realistic, and fair. They did a much better job approximating real world engineering problems. In real life, all possible resources are available to solve a problem, but it can still be difficult. The exams were designed to test knowledge and deduction related to the material. Passing the exams required real mastery.

Online office hours were very effective. I felt I could get prompt assistance and answers in a convenient form. It is much easier to join an online call for a one minute question than it is to walk across campus. I felt this enhanced my ability to attain mastery.

It is hard to balance safety, home life, and school work, so the university should make it their priority to make sure professors are understanding and fair.

No big differences

Just because we are working remotely and in quarantine this does not necessarily mean we have more time to devote to classes than during a traditional semester.

Office hours made everything extremely easy to get in touch with the professors.

I have social anxiety and remote learning made it much more difficult to reach out to professors and other students. I avoided going to office hours because the zoom format makes me uncomfortable.

This is a very high level and complicated course and without being able to physically show a thought process out made it very hard to grasp material at the first pass.

Remote learning is no substitute for in-person learning.

It is much harder to work with others remotely

Certain subjects are harder to teach online I think. RBD, circuits and statics felt easier because I already had a background in circuits and free body diagrams. Thermo is really a different beast, unlike anything I had learned before. My lack of any existing knowledge made it harder to learn the material in a remote context.

I don't like the construction of this class. Also the stuff we learned didn't match the difficulty of the homework and exams. It has been the worst experience I ever had in the college.

Any assignment or evaluation that can easily be completed online (questions through canvas or other service) is extremely helpful. The less scanning the better. The less specific formatting, the better.

record class session lectures so that we can go back and watch these lectures on our own peace

It's lonely

Can't be done if professors don't work with students. Has to be a more passive and inviting professor.

I had the most trouble with keeping up with assignments due to the switch to canvas and the remote learning environment.

I found myself in more situations where I was on my own. Admittedly I could have utilized Office Hours more.

For a class like Thermo when everything is online it makes it a lot more difficult to deal with all the figures on a device where I cannot modify the document. I am aware this is not the fault of the professor but it was just a difficulty that came at a greater extent with remote learning.

I thought professors became more accessible because of remote learning. All it took was a simple email and 20 minutes later we were in a zoom call for office hours

I think being able to watch and re-watch lectures was really helpful. I'd like more flipped classes in the future.

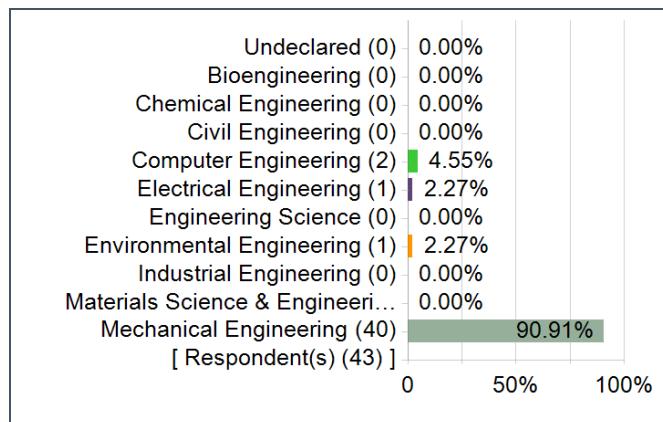
The availability of office hours in this course was very helpful. Being able to pop by office hours a few times a week to have questions answered helped me to stay engaged. Additionally, I appreciated the asynchronous parts of the class. watching presentation style lectures before class, and then having a more engaged zoom was really helpful

I'd have frequent issues with zoom staying open and my.pitt.edu working

I was appreciative of the detailed homework/quiz solutions on canvas. They really helped me figure out where I went wrong. I think sometimes the Q & A part of the zoom lecture was not very helpful.

## 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

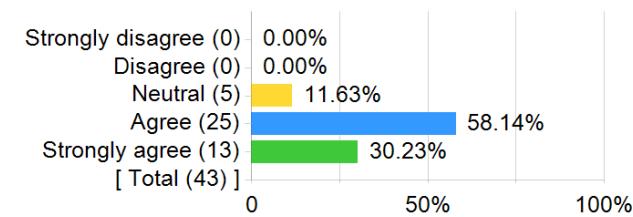
### Instructor Summary of Results - Scale: Strongly Disagree (1) to Strongly Agree (5)

Question	Results		
	Response Count	Mean	Standard Deviation
The instructor stimulated my thinking.	43	4.19	0.63
The instructor was enthusiastic about teaching the course.	43	4.37	0.66
The instructor presented the course in an organized manner.	42	4.07	0.78
The instructor maintained an environment where students felt comfortable participating.	43	4.00	0.69
The instructor maintained an environment where students felt comfortable seeking assistance.	43	4.00	0.72
The instructor provided helpful feedback.	43	3.95	0.58
Assignments contributed to my understanding of the subject.	43	4.23	0.61
Overall	-	4.12	0.68



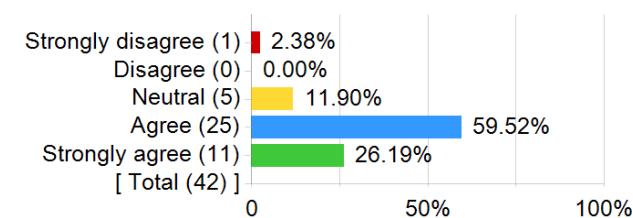
## Instructor Items: Detailed Results

1. The instructor stimulated my thinking.



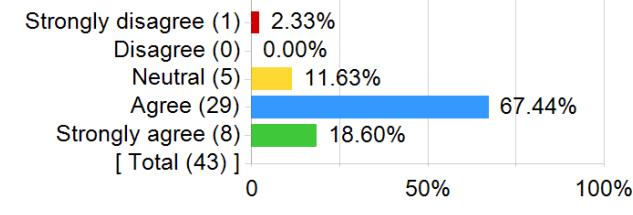
Statistics	Value
Invited Count	45
Response Count	43
Response Ratio	95.56%
Mean	4.19
Median	4.00
Mode	4

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



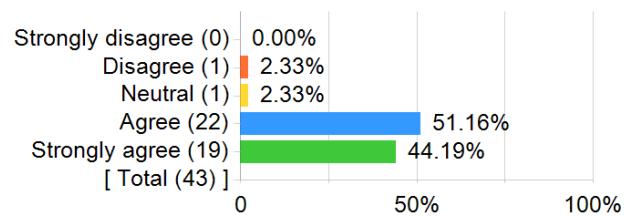
Statistics	Value
Invited Count	45
Response Count	42
Response Ratio	93.33%
Mean	4.07
Median	4.00
Mode	4

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



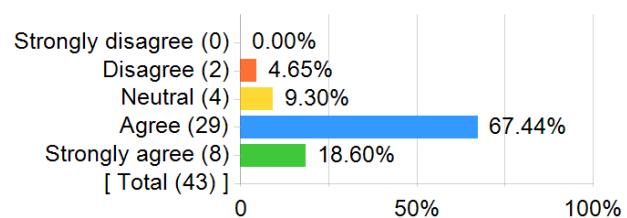
Statistics	Value
Invited Count	45
Response Count	43
Response Ratio	95.56%
Mean	4.00
Median	4.00
Mode	4

2. The instructor was enthusiastic about teaching the course.



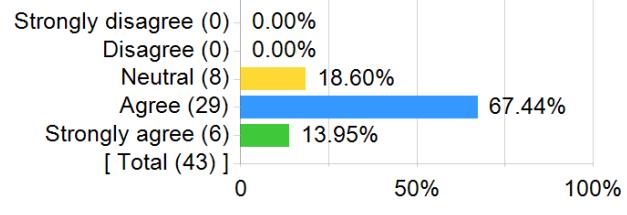
Statistics	Value
Invited Count	45
Response Count	43
Response Ratio	95.56%
Mean	4.37
Median	4.00
Mode	4

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



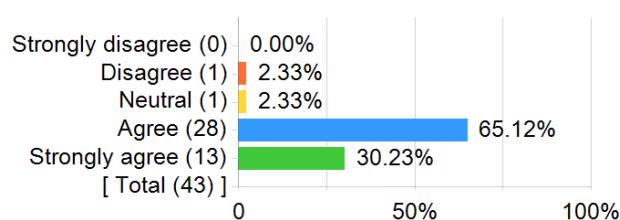
Statistics	Value
Invited Count	45
Response Count	43
Response Ratio	95.56%
Mean	4.00
Median	4.00
Mode	4

6. The instructor provided helpful feedback.



Statistics	Value
Invited Count	45
Response Count	43
Response Ratio	95.56%
Mean	3.95
Median	4.00
Mode	4

7. Assignments contributed to my understanding of the subject.



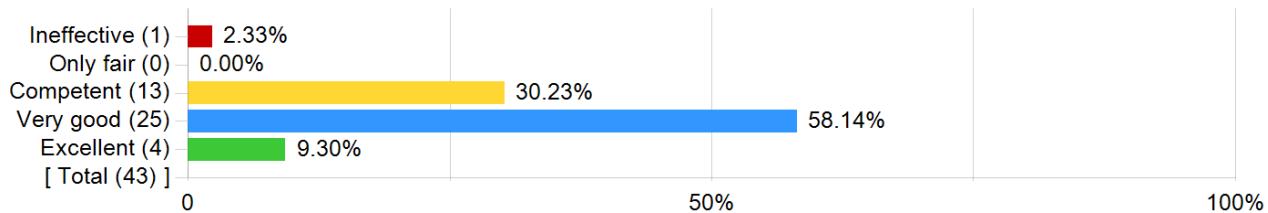
Statistics	Value
Invited Count	45
Response Count	43
Response Ratio	95.56%
Mean	4.23
Median	4.00
Mode	4

### Instructor's overall teaching effectiveness

Question	Results		
	Response Count	Mean	Standard Deviation
Express your judgment of the instructor's overall teaching effectiveness.	43	3.72	0.73

### 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
Helpful example problems. Simple explanations and personable.
Practice was good
The basic concepts of thermodynamics
During lecture he had example problems after the Q&A part of class.
Lee was very willing to clarify questions and misconceptions that students had and was very enthusiastic about the course material
Helped lecture
Examples in class were quite good.
Explanations of questions during class were clear and helpful.
good worksheets and helpful office hours
The practice problems were very helpful.
Giving real world examples of the material we were going over.
He provided well thought out examples during lecture
He presented things in a logical and concise manner that made learning the material easier to understand
He was incompetent on most aspect of teaching.
He brought a lot of enthusiasm to class, and shared a lot of interesting content even when it went beyond what was necessary for us to learn. The examples in class were very good.
did great example problems in class to demonstrate concepts
Lots of practice problems during class time and being able to have the notes and ask questions during that time
Available for office hours regularly and doing the examples for us was helpful.
Mr. Dosse had good homework assignments, these were helpful and dare I say essential to my understanding of Thermo. I also like the in class worksheets that he provided, they helped lay the foundation for the homework.
Mr. Dosse provided great example problems and walked through them to explain the process of finding the solution.
How to use steam tables, different properties of fluids and ideal gases and how to solve for them
Gave examples that stretched our thinking instead of just telling us we knew what we were doing
He had enthusiasm, knowledge, availability, and effort.
Have office hours
Was available for office hours and answered / provided hints to any questions I had.
Lee provided good example problems in class that were very helpful for understanding the topics covered. He also was very enthusiastic about the material.
He was excited about the material
In office hours he helped me understand and review content.
The examples during lecture were really helpful, as well as having time to complete and turn in exams/quizzes rather than having them during class time.
I found his examples to be a great way to expand my understanding of the course material.
good examples during class
Lee keeps it real. lol.
you talk like a real engineer in industry and your problems were super useful for understanding the material.
The professor would walk through problems in office hours and cover topics a bit more in depth if I asked. This always helped me understand the material better
I think the explanations given on example problems and in office hours were very good. You definitely were great at clarifying questions.
Lee was very present in office hours, and was great at pushing students to think of answers themselves with his support. The homework he wrote also really helped connect the concepts to practice
The in-class examples were helpful
His example problems during class were very helpful.

## What could the instructor do to improve?

### Comments

Make examples more similar to homework problems.

### Points for participation?

Having less technical difficulties during class

Sometimes I would go to Lee's office hours, and would ask questions where he would give half answers or hint to things that I wouldn't understand and I would leave his Office Hours more confused than I came in.

I also think his example problems are good, I just think it would be better to have those at the beginning of class before the Q&A since I usually don't have questions until I start doing problems on my own, and by the time we get to the end, we passed the question part and that is when I have the most questions.

Be more confident when speaking.

Homework needs to be checked better for typos before it is released.

Tophat assignments were not particularly effective for me. I was usually already exhausted by the end of class, and a full day of homework. It might be better to post it along with the lecture videos. That would give more time to work on it, and might help stimulate more questions during class.

There was usually insufficient practice of material taught immediately prior to exams. It might be better to delay the exam a week, start teaching material for the next exam, and provide more practice of the last material taught for an exam. I often found myself with questions on that material that, had there been a homework, I would have asked in office hours.

I feel entropy generation could have used more time and detail. It is an important concept that was somewhat underdeveloped.

Be more confident. It was clear throughout the course you knew the material but would always second guess yourself and fall back on Barry. It was awkward to watch and made it feel like you were a TA and not my professor.

N/A

learn more about surface tablets

Have more problems and more involved problems that are go over by you step by step and share your thinking of why you are doing what you are doing.

Reviewing what he is about to teach.

Learn how to use technology lol

be more clear about deviations from the schedule please, and sometimes it was hard to reach him during his office hours

Not have so many technology issues

Mr. Dosse was not always there during his office hours, so he could definitely improve there, even though there were a lot of office hour during the week. In addition, when teaching, I think that Lee can do a better job by not talking about content that we haven't covered yet. Whenever an instructor starts saying "when we get to.." it is generally a cue for me to stop paying attention.

Mr. Dosse could incorporate just a bit more review into the example problem explanation process. Especially in this remote environment, some topics take a bit more instruction to grasp, so the relationship between new topics and old topics would really help. Mr. Dosse did do this, but a little bit more would be great.

Hold office hours on the day of class more consistently – most people are procrastinators

I wish Professor Dosse treated students' questions and office hours as an opportunity to work out problems with them and help students practice. I often found that he instead liked to give hints and his "help" felt like riddles; he never showed the solution. I think homework should be treated more as practice—learning while doing instead of trying to figure it out on your own.

Quick tip: use a finer pen when writing on the surface. Your handwritten stuff in lecture can be hard to read.

being available

Lee seems really enthusiastic about thermo, which is a great quality for a teacher. However I did feel that some HW questions were a bit convoluted and could have been worded better. I remember during office hours with Dr. Barry when he was helping me with a HW problem, he admitted that it was unclear and that Lee could have worded it better. Challenging assignments can still be beneficial, but there is a difference between challenging content and confusing presentation of that content. I also felt that sometimes when a student would ask a question during lecture, Lee's explanations would sometimes go off on a tangent, were more detailed than necessary and made the content more confusing. Lee is really invested and enthusiastic about Thermo, but I think he could work on truly listening to the student's question and trying to understand where they are coming from when they are confused about a topic.

I sometimes found it hard to focus on your example problems. They were getting to the point that it was just a slide of text after a slide of text, and even though you would ask questions, they didn't seem really engaging to me. This might just be the fault of the subject, as a lot of the example problems were just referencing the tables, interpolating, using EES, and such, but if you could find a way to somehow make the in class problems more engaging, by maybe even just writing it down with us rather than just going to the next slide, I think I would have been able to follow along better. They were fantastic to reference back to when doing assignments, but not great to follow along in class.

Be better with technology

Better microphone lol

Maybe notification in class that there's a quiz? which did happen most weeks but there were one or two weeks where it wasn't mentioned in class, I thought the week was a quiz free week, and missed the quiz. I just found it a lot harder to keep track of assignments from week to week compared to in person classes. My other classes this semester gave a weekly announcement of what was due each week which seemed to work?

Comments
no comment
Be a little more welcoming during office hours and don't make any student's question seem dumb even if it is a dumb question.
I wish the homework had a late due date? lose 10%/20% for a day late?
I would always look at them and think they looked not too bad... then I would try to do them and, you would need to apply all sorts of principles from other lectures. It felt like gas-lighting and whiplash every time.
It felt like sometimes he was unorganized during lectures, but it was mostly due to technical issues so I can't really get upset over that. Other than that he could stay on topic a bit more
I found getting into your office hours a bit complicated. Dr. Barry's were "join whenever", but I usually had to email you to join yours. It was a little confusing to have two different set ups.
n/a
Perhaps make more of the class focused on guided examples
Sometimes he would skip slides too quickly while going through example problems and it was hard to write everything down.

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

Comments
No
your practice problems were very helpful
Not really.
N/a
Lee Dosse barely taught this class. I was in Dr. Barry's class with Lee as a helper.
Personally I think overall you did a great job.
nope, great semester.
I think you did a great job and I'm glad I took this course from you and would be happy to have you again in the future.
If you don't know what you're about to teach, don't teach it...let alone say out loud to the class you don't know.
No
Less back and fourth banter during class and making the general student population feel bad when they might not have many initial questions
I think the instructor should have a higher opinion of himself as a teacher. He would often make comments about how nobody was listening or we were all probably bored, but that was rarely an accurate description of how I felt in class. I would appreciate if the instructor stopped disparaging himself in class because he is better than that.
N/A
Having both you and Dr. Barry teach the class together was nice in that it allowed different viewpoints on the subject matter. It was a very good idea imo.
Same as Dr. Barry:
Students can tell that you are very (very) proud of your questions. It doesn't sit well. Sometimes I felt that pride got in the way of effective teaching. It felt like you didn't want us to solve these problems. The little tricks or wordings that make the problems a little bit harder were unnecessary. I think it led to me putting in extra time and work into the class, but not learning any more from the extra time. More time was put into deciphering questions. I would have preferred more questions, but straight forward questions that gets right to the point of the material. Thermo is a tough course, I don't think it needs to be made tougher.
mp
Just in general, I appreciate all the time and effort you put into this class. From the first day of the semester I could tell that you actually cared about making this class worth it, even with it being all online.
Nice guy, appreciate that he is understanding.
N/A
none
Thanks for teaching! I'll probably see you in the spring :/. Also Sarah was a great TA just wanted you to know she did an amazing job.
Great job! I thought this course was really organized and well taught.
no. thank u !
No

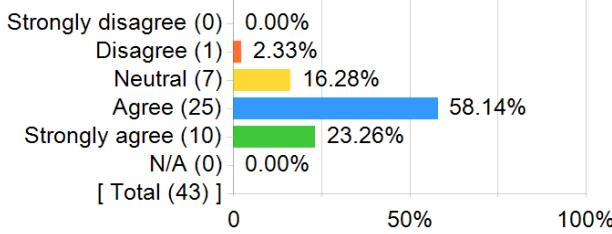
## Arts and Sciences Questions

### Summary: 5-point scale - Strongly Disagree to Strongly Agree

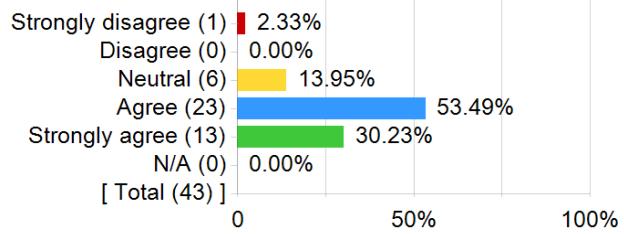
Question	Response Count	Results	
		Mean	Standard Deviation
The instructor created an atmosphere that kept me engaged in course content.	43	4.02	0.71
The instructor was prepared for class.	43	4.09	0.81
The instructor treated students with respect.	41	4.27	0.74
The instructor was available to me (in-person, electronically, or both).	42	4.31	0.64
The instructor evaluated my work fairly.	42	4.19	0.71
The instructor provided feedback that was helpful to me.	42	4.21	0.68
I learned a lot from this course. If there is no basis to judge or not applicable, answer N/A.	43	4.28	0.98

## Detailed Responses

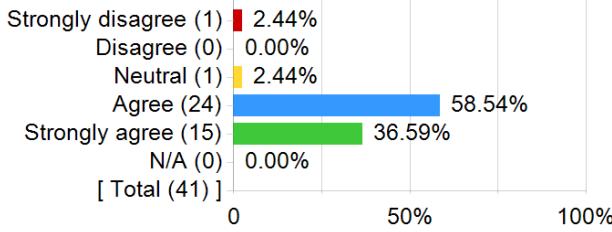
1. The instructor created an atmosphere that kept me engaged in course content.



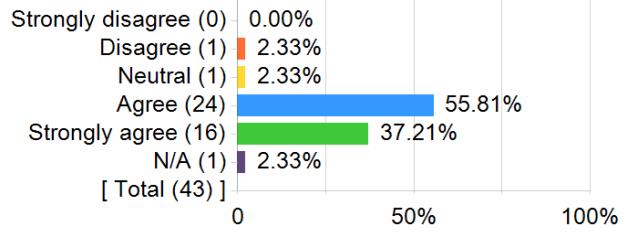
2. The instructor was prepared for class.



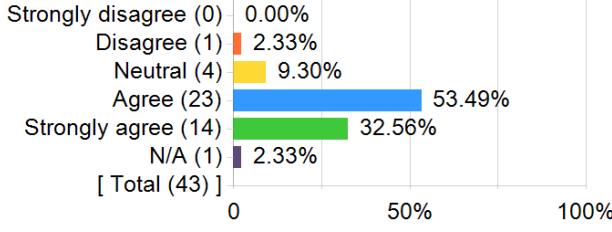
3. The instructor treated students with respect.



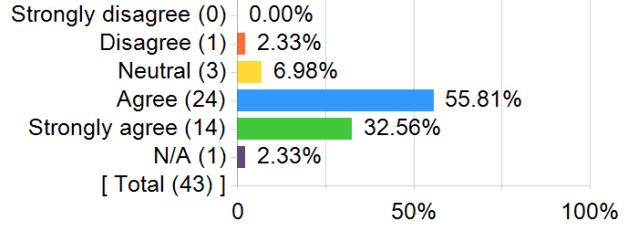
4. The instructor was available to me (in-person, electronically, or both).



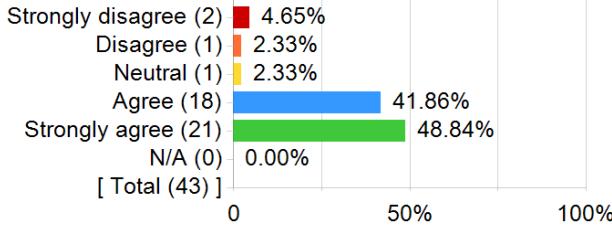
5. The instructor evaluated my work fairly.



6. The instructor provided feedback that was helpful to me.



7. I learned a lot from this course. If there is no basis to judge or not applicable, answer N/A.

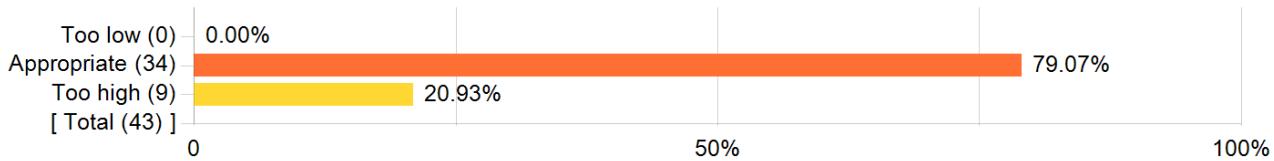


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**The standards the instructor set for me were:**

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The standards the instructor set for me were:

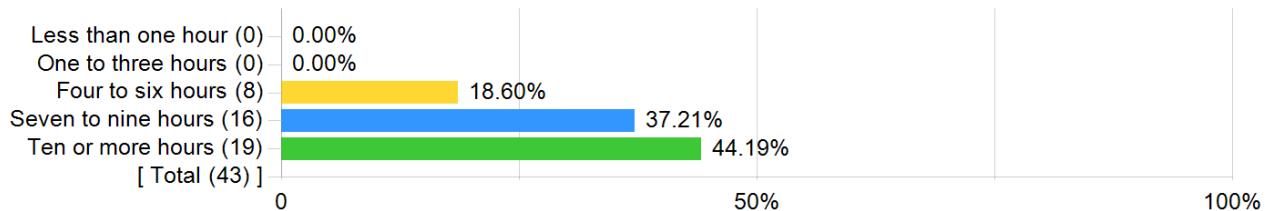


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**How many hours per week did you usually spend working on this course outside of classroom time?**

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How many hours per week did you usually spend working on this course outside of classroom time?



## Comments

### What did you like best about how the course was taught?

Comments
The short lecture videos, lots of examples, lots of office hours
I liked the flipped style, though maybe give some pointers on the HW during class.
The Rankine cycle was very interesting to me
The flipped lectures, which allowed me time to learn the general material before applying it in class
The modules before class and lecture notes.
Almost everything was good.
The video lectures were clear and concise.
Having tophat worksheets.
I think this was a class that worked well with the remote environment. The professors also worked really hard to make a strong product.
I liked how class was structured and it was broken up into sections instead of one giant block. I also really liked how the rankine cycle was taught, i think thats the one section i feel like i have the firmest grasp on
the way live class was structured with answering questions, example problems and top hat examples
Challenging us to apply the material in new and strange ways
All material is available to look back for review.
The wide availability of office hours
Lecture time was mostly devoted to examples to explain how to approach a problem.
Flipped classroom format – doing extra problems in class was pretty helpful
Lots of opportunities and platforms to ask questions. Solutions to all questions available online so that it can be referenced to later.
enough time to work on assignments thanks alot
Showing real world examples, practicality.
I liked the take home exams over live exams, I felt they really helped me to understand the material.
I liked that everything had a meaning, especially the zoom lectures. I've had professors that used the zoom meetings to just repeat the information in the lecture videos, but you guys figured out early on that this wasn't helpful and made the changes to the structure of your class.
I mostly just enjoyed the material
videos you can rewatch if you are confused.
I found the time given to answer questions and go over examples in during lecture to be really helpful.
Overall the zoom calls were a friendly atmosphere.
Liked the examples given. I kindof wish Tophat were mandatory then I might have better chance of passing but thats my fault
You found a way to make the online course interactive. That was super cool.
The crazy tangents you guys went on to explain the "Why" and "how" were super interesting and, kept lectures fun.
I liked how we watched videos first and then went more in depth in class
I really liked the recorded lectures.
I liked the lectures format ! It can be hard to focus when we are on zoom zoom all day, so being able to split watching the lectures into multiple shorter components was really helpful in motivating myself and not feeling overwhelmed.
If I had to pick, probably the homework. They were fun puzzles to do with not very many repercussions (being only 10% of the grade)
I liked the lecture videos. They were helpful.

## If you were teaching this course, what would you do differently?

### Comments

Make the examples similar to homework and exam problems. More review.

I would make the test a day long, day of class test that is only marginally harder than an hour long exam. Just because people have a longer time period over which to work on the test doesn't mean they have more time to give to the test.

Go over the basics of Matlab for those who forgot how to use it

I would have questions at the end of class, and go over problems at the beginning. I would also allow students more time to work on practice problems during class time.

I would set aside more time to discuss key points, as sometimes confused students would be asked if they had questions but felt behind and weren't aware what question to ask

I would offer more complex examples in class. I always found that the in class problems were simple and didn't reflect the difficulty of the homework

The posting times and due dates for homework and quizzes should be more consistent. Especially being in a different time zone, there were times I missed or almost missed deadlines because posts were inconsistent.

Make an answer key for tophat.

Respond more quickly to slack questions during midterms.

Have some understanding regarding students' lives and time and the current global situation.

Maybe not giving test questions that require Matlab.

nothing

Make it more concise and remove unnecessary "busy work". We weren't learning and I felt there was no critical thinking involved. I would do this course completely differently.

I would give some required homework problems that were much simpler than the ones given. On the homework that you gave on the different types of rankine cycles where we could get the answers pretty much directly from the lectures i felt like i ended up with a much better understanding of the material than after previous homeworks. It forced me to go back through your examples and prove i understood them by reproducing them myself. I had instant feedback when i did something wrong. Usually homeworks were very frustrating and demoralizing and by the time i got the assignment feedback and saw i got something like half credit, i didnt even want to think about it anymore. Im not saying there should be no challenging questions, but they should come after more basic questions that actually help me learn the material.

for the projects let students pick partners or make a separate partner feedback sheet so they don't have to see what we think of their performance ...

**STOP HAVING THE MIDTERMS ENCOMPASS NEW OR MATERIAL THATS NOT GENERALLY UNDERSTOOD ON THE MIDTERM. THE CHALLENGES ON THE MIDTERMS ARENT FAIR SOMETIMES! LIKE THE MIDTERM WHERE YOU HAD US WRITE A MATLAB SCRIPT AND WENT OVER IT IN 30 SECONDS IN A RANDOM LECTURE VIDEO**

Focus more on entropy, it is a confusing subject.

More instructed examples, rather than Tophat questions would be more beneficial. Students were hesitant to work together or engage one another with Tophat questions, so it seemed like a waste of 30 minutes per week that could have been used for more instructor-based instruction.

Release the top hat work after a few days so people can go over it. It pushes people to practice if they can check their work by themselves and come to you with questions

I will not read off the slides, record it as "useful" videos, throw them to the students, and pray they can learn something.

The structure of the course seemed really good at first. But as time goes on, students want to use their time as efficiently and effectively as possible so that there is more time for sleep and video games.

That is to say, there were some redundancies.

### Lecture:

Do the example problems before time for questions. I rarely had questions on the videos; I just assumed they were true. Questions don't come until you start doing problems. I think this would lead to more interaction during example problems, and more questions afterwards. Lots of the questions asked at the start of lecture felt forced and rarely applied to me; it's like I was just watching office hours. Another thing that would be really helpful would be to review previous quizzes or homeworks to point out common mistakes.

If I structured lecture... review (old material) —> worked out examples (new material) —> TopHat —> questions (at the end and throughout)

### TopHat:

I think because there was no solutions to them, I never used it for practice. And the fact that they were ungraded and at the end of lecture... hard to gather motivation.

### Quizzes:

felt just like another homework. I would scrap it; it felt unnecessary. If anything, I'd do it in class. Replace TopHat time for it.

### HW:

I think I would have got more from simpler problems, but more of them. These longer, more complicated HW problems would touch

## Comments

upon all concepts, but didn't reinforce anything. I think the TopHat questions would work better as homework, with a couple standard homework problems as "challenge" type questions.

record class video sessions

I would revise the quiz schedule. It doesn't make sense to me that we would have a quiz and a midterm to work on at the same time. I would also get rid of the group project. I feel that I learned the material sufficiently through homework and take home exams (plus, take home exams are practically the same as a project anyway). If you insist on keeping the project, I would make it individual instead of a team. In this remote learning environment teamwork is really difficult, especially with varying time zones and having to do everything entirely electronically.

I'm not sure what options you have for the breakout rooms during the zoom meeting, but I think that possibly keeping us with the same group the entire semester might facilitate more discussion on the questions than randomly giving us groups with different people that we might not know. If it were the same group, we might get to know them over the semester and be more comfortable asking questions and discussing the material. This might fix itself with the at least partially in person classes you will be teaching in the fall, but I think this could help if they become online once again.

More real world examples of power plant designs and common problems engineers face in the field

Try to introduce a topic with barebones examples and eventually work up to more complex problems. Applying this concept to homework as well.

I would probably be a very bad professor and make it kinda easy tbh. I could prob never grasp this material enough to teach it tho.

This was hard and, the problems (mostly) felt impossible.

I would taught entropy a bit sooner in the class and made sure that it was covered in great detail since it's a very easy topic to get confused on

I don't know if the coding-heavy problems on the midterms were necessarily a great assessment of thermo knowledge, or just coding ability. I feel like I approached some of them the "wrong way" in terms of thermo knowledge but just muscled through by making the code more complicated.

I think the take home format of the examinations was too stressful // too much. Since we had a whole week, I spent days mulling over the answers in a way that was not really productive. I would have prefered maybe a shorter period (2 days or less) so that it didn't feel like I should be spending a whole week working on it.

I would make the tests a little more reflective of what was covered

Make homework assignments more aligned with textbook problems.

## ENGINEERING

### Swanson School of Engineering Items

#### The instructor was accessible.

The instructor was accessible.



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

## Comments

Understand that Thermo is hard and you should try to minimize whatever else is going on in your life so you can spend more time practicing, solving, doing, etc. Also, utilize ALL resources at your disposal.

GO TO OFFICE HOURS IF YOUR ARE CONFUSED, THEY ARE EXTREMELY HELPFUL!!!

Check canvas regularly (as often as possible) and reach out to professors for help

Study and study some more.

Go to office hours early and often. Ask questions in class. Expect to spend your waking life on this class.

Reading the written part of book without stressing too much on the example problems at first supplements the instructors' slides well.

Do not take this class if Dr. Barry is teaching. I cannot judge if Lee is a good professor for this course because he barely taught it.

Best to learn the fundamentals and work through the homework problems instead of trying to search for it online which will take way more time to do with no good results.

do not over think this content but do not underestimate it.

Take a different teacher.

I could have done the tophats all the way through or done more of the suggestion questions before doing the homework

read the textbook!

Do as many suggested problems as you can. Make sure you learn from your mistakes (from quizzes, homeworks, exams). I visited office hours much more than I would have during normal, in-person classes, because it was wayyy easier to do so, so definitely take advantage of that.

Go to every office hour you can and ask lots of questions, most of this material is pretty foreign.

Consult your text book more.

Go out of your way to do the top hat – it's that knowledge of how to use the equations that is strongly needed on exams. Go to office hours multiple times per week with questions – I only went about once a week because I thought that was enough but it certainly was NOT and I regret that

Find some thermodynamics video sets on Youtube and watch them like u are watching "official videos." "Official videos" are not gonna help u much.

Avoid classes taught by Barry

I don't think the grade is worth the work. I think if you can allow yourself a 'C.' You'll learn more.

Give us some time to be used to software like math-lab some of us are transfers and have never used it put it as part of the exam when we aren't used to it .Makes us less advantageous

Read the textbook, review old exams, and start the HW early so you can attend office hours with any questions. Also, review your assignments after they are graded so you can fix any mistakes going forward.

Especially if online or hybrid classes continue, it is definitely hard to motivate yourself to do extra work or extra example problems. I think in this class, the more problems from the text that I could have motivated myself to do, the more confident I would have been with the material, and the better I would have done.

Read the book

taking classes at home during a global pandemic isn't necessarily the Best/Healthiest learning environment but work with what you can.

Do the tophats (if they exist). don't work a job while in school. Go to office hours for help on hw.

Pay attention a bit more in class. It's hard to focus during a zoom call for 2 and half hours but if I focused a bit more I could have performed better

Office hours all the way. Definitely super helpful to have your questions answered early before they lead to wider confusion later down the road.

Really make sure you watch the lectures and do the practice before class. come with questions ! go to office hours (Dr. Barry and Lee are super nice in office hours, and will help you if you are stuck! don't be afraid to go even if your question is " i don't even know what question to ask." ) :-)

I couldn't tell you; just suffer I guess and move on

Take advantage of office hours more and finish up the top hat worksheets after class. Start homework earlier.

## 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.	42	4.00	1.01
Your ability to identify, formulate, and solve complex engineering problems by applying principles of science.	42	3.95	1.01
Your ability to identify, formulate, and solve complex engineering problems by applying principles of mathematics.	41	3.90	1.02
Your ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare.	42	3.17	0.99
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).	42	2.95	0.99
Your ability to apply engineering design to produce solutions that meet specified needs with consideration of environmental and economic factors (i.e., sustainability principles).	42	2.81	1.06
Your ability to effectively communicate verbally with a wide range of audiences.	42	2.50	1.23
Your ability to effectively communicate in writing to a wide range of audiences.	42	2.69	1.26
Your ability to recognize ethical and professional responsibilities in engineering situations.	42	2.95	1.08
Your ability to make informed judgments that consider the impact of engineering solutions in global and societal contexts (i.e., sustainability principles).	42	2.98	0.92
Your ability to make informed judgments that consider the impact of engineering solutions in economic and environmental contexts (i.e., sustainability principles).	42	2.88	1.02
Your ability to function effectively on a team whose members together provide an inclusive environment, collaboration, and leadership.	42	3.14	1.05
Your ability to function effectively on a team whose members together establish goals, plan tasks, and meet objectives.	42	3.14	1.00
Your ability to develop appropriate experiments.	42	2.38	1.23
Your ability to conduct appropriate experiments.	42	2.40	1.25
Your ability to analyze and interpret data and use engineering judgment to draw conclusions.	42	3.50	1.04
Your ability to embrace new learning strategies to independently acquire and apply new knowledge to solve engineering problems.	42	3.64	1.06

## Personalized Questions

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

