PHSC 11600 1 - Physics for Future Presidents: Fundamental Concepts and Applications - Instructor(s): Savan Kharel

Project Title: **College Course Feedback - Autumn 2023**

Number Enrolled: **87**
Number of Responses: **49**

Report Comments

Opinions expressed in these evaluations are those of students enrolled in the specific course and do not represent the University.

Creation Date: **Friday, February 2, 2024**

What are the most important things that you learned in this course? Please reflect on the knowledge and skills you gained.

Comments
I have to admit that I did not learn much. We barely covered basic physics concepts, and it was taught in an overly complicated while still utterly unhelpful manner.
How to apply knowledge of physics to real world scenarios
Conceptual understandings of motion, gravity, energy.
How physics can be more than numbers and ist applications in policies and the real world
Taught us useful knowledge not just about physics, but the world around us.
Electromagnetism. We say real–world applications.
Forces, projectile motion, energy, magnetism.
how forces of nature work and about scientific process and estimation
Foundations of physics concepts on an intuitive and conceptual level, energy, forces, black holes, etc.
Physics stuff
I learned about motion, gravity and black holes, electricity and magnetism and applications of physics in current public policy.
Basic physics concepts and physics connections to policy in the US today
General elements of physics
mechanics and estimation
Guesstimation of Potential Energy
I learned about battery development in the U.S. as it relates to the $3.5 billion in funding allocated to battery development in the Bipartisan Infrastructure Law. The class taught fantastic skills in understanding science concepts at a big–picture level to make policy decisions.
The conceptual side of physics
Broadness of physics, importance of the field, critical thinking techniques.
Gravity, motion, energy, electromagnetism, real world applications, approximations as a skill, thinking about public policy
We learned about mechanics, including forces and energy, as well as the basic of electricity and magnetism
Electromagnetism concepts, estimations
I learned the basics of physics: gravity, electricity, free body diagrams, black holes, etc.
How to think about physics at a deeper level without crazy math
This caught taught us the basics of physics and connected it back to actual reality and the practical use of everything.
motion, gravity, guesstimation, electricity, magnetism
gravity, electromagnetism, motion
Gravity, motion, forces, electricity, and magnetism. (and guesstimation)
Basic physics concepts and their real–world applications
The concepts and big ideas behind physics in an everyday setting. Rather than pushing us to memorize equations, Professor Kharel helped us think conceptually to understand the world around us and the importance of physics in "real life."
I learned how prevalent physics is in the real world and in every day life and how important it is.
We gained a fundamental understanding of physic's concepts.
This was the best physics course I have taken. I gained a really strong conceptual understanding of complex physics concepts and truly enjoyed the content.
Fundamental physics concepts and their potential policy applications
Fundamental physics concepts from mechanics, energy, how to do approximation problems well in science, critical thinking skills rather than formulas (which I greatly appreciated)

Describe how aspects of this course (lectures, discussions, labs, assignments, etc.) contributed to your learning.

Comments
Our labs were irrelevant (I believe only one lab actually coincided with class material, and that was likely by accident) and

Comments
complicated at best, often needlessly drawn out. Assignments felt like they were being tossed out of a child's playbook with no real reason or meaning behind them. We had to calculated, at what point, the amount of energy acquired by blowing up a mountain (essentially the energy stored within) by estimation. For a professor that preached so much of the value of physics to social sciences and humanities majors, he came up with little that was truly relevant. The only aspect that offered any real value was the extra readings he offered, such as ones on satellite systems and on laws on batteries. To anyone entering this class searching for an interesting intersection of physics and "the real world" (a term that our professor has stated that he dislikes; nonetheless, the term holds true), you will find a complicated and rather unhelpful mess of an introduction to basics physics class cosplaying as a cross–subject discipline.
The lectures were extremely helpful in grasping counter–intuitive concepts!
Lots of repetition of topics covered.
Lectures were incredibly fun, labs not that much, and there were quite a few assignments. But at the end they made me like physics
Lectures and labs were equally important, and both contributed greatly to my education
Lectures were engaging and seemed relevant to the goal of the class.
Lectures were full of examples, demonstrations, and practice problems that helped facilitate learning.
Lectures always build off of each other. They are organized clearly & well, and Kharel does a great job of keeping the lectures engaging & making you WANT to attend class.
Lectures were SUPER helpful. Discussion was also really important, TAs often gave out helpful hints and/or nearly the answers for p–sets. Labs were useless and unrelated to class. Assignments/psets were really good for studying for the midterms, but reading reflections felt excessive (mostly because we had to write soooo much).
Lectures and demos were great actually. Labs got real fun towards the end.
Labs were very disconnected from the course content but homework assignments were on topics covered in lectures.
Lectures were the main source of learning, with weekly problem sets, reading assignments, and labs.
Lectures and experiments were the most interesting and inciteful
very interactive methods
Lectures and the open dialog that our professor stressed contributed to our learning
As a policy major, I was very interested in the readings related to battery development and rare–earth metal mining operations here in the U.S. I also really enjoyed the brief discussion we had about the CHIPS act and microchip development. The labs with radioactive materials were attractive and novel, but I will not remember them in five years like I'll remember our discussions of policy or CERN or NASA's crater–diversion projects or professor's fun demonstrations. The assignments were largely very cool. The assignment on electric eels, I personally found somewhat out of place — especially when electricity is so prevalent in so many interesting places in our world. Why not a more policy–centric discussion of electricity, like with wind turbines or something?
Kharel is a fantastic professor who has structured this class beautifully. Discussion are helpful, lectures are interactive, and TAs are great.
Lectures were very useful in broadening my understanding and teaching us the content.
The professor put in an effort to make lectures engaging through in–class experiments and comprehension questions. We had a foldable multiple–choice card to answer questions and ensure we were on the same page. Professor Kharel is an excellent professor committed to an inclusive environment
The lectures were very helpful. Kharel included a lot of useful questions in his lecture slides and thoroughly explained them as well as answered any questions students had.
Lectures were engaging
Lectures, labs, problem sets
Kharel gave great examples and models in class. Loved it!
The lectures were very engaging and I never had a boring or uneventful class. The professor really made me want to learn about physics and I was excited every time I went to his class.
discussion sections and lectures were very useful. Homeworks were also helpful as well. Labs were arbitrary.
lecture, readings
Lectures were super interesting and engaging.
i did not feel that the labs significantly contributed to my learning — they did not typically reflect concepts learned in class
The lectures were a crucial part of my success in the class. They were really engaging and almost every week we would have demonstrations in class, work with partners, and have in class activities. The discussion sections were also really helpful with understanding p–set problems.
I think that the in–class demos were the most helpful to my learning

Comments
lectures were good. labs were unnecessary and far too long.
Lectures were both helpful and entertaining because of Professor Kharel. He is a very good instructor and made this class tolerable. Outside of lecture, reading assignments were given out which were helpful but felt menial.
The lectures were always super engaging. Professor Kharel often did presentations and allowed us to have fun while participating in the course.
Lectures and labs were very interesting and engagnig
Dr. Kharel was an inspiring lecturer. I really give him a lot of credit: he made class fun each and every single day by doing physical demonstrations of the concepts we were learning, telling us stories to help things stick in our brains, and doing all the things that a great teacher will do

Please respond to the following:

	Mean	Median	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
This course challenged me intellectually.	4.00	4.00	0.00%	11.11%	11.11%	44.44%	33.33%
I understood the purpose of this course and what I was expected to gain from it.	4.56	5.00	0.00%	2.22%	0.00%	37.78%	60.00%
I understood the standards for success on assignments.	4.49	5.00	0.00%	2.22%	6.67%	31.11%	60.00%
Class time enhanced my ability to succeed in graded assignments.	4.52	5.00	0.00%	2.27%	6.82%	27.27%	63.64%
I received feedback on my performance that helped me improve my subsequent work.	4.22	4.00	0.00%	8.89%	6.67%	37.78%	46.67%
My work was evaluated fairly.	4.62	5.00	0.00%	4.44%	0.00%	24.44%	71.11%
I felt respected in this class.	4.69	5.00	0.00%	2.22%	2.22%	20.00%	75.56%
Overall, this was an excellent course.	4.50	5.00	2.27%	0.00%	4.55%	31.82%	61.36%

Additional comments about the course:

Comments
This is the best professor I have had at Uchicago by far. He is so passionate about his work
Prof Kharel is the GOAT
This is a great course for people who don't have a strong background in physics, it starts from the bare bones of physics concepts and then builds up.
This course is easy (the physics conepts are not complicated) but it's a lot of busy work (psets and homework are constantly asking you to summarize long, irrelevant articles that are never talked about in class but it's an easy way to get points/boost your grade)
Awesome course overall, Kharel is an amazing lecturer and his passion shines through everything he does.
Kharel is so amazing! This class was fun and not difficult.
Overall, Kharel was an excellent lecturer who made the class very engaging to a classroom full of people who did not have much interest in physics. He also taught things at a level that was challenging but still digestible and realistic for students with no physics background.
He is a great professor please take him! His passion is contagious and I am not a STEM major, but I thoroughly enjoyed this class because of him.
Such a great class
Every lecture was engaging and informative. The professor also really tries to make sure you do not stress about exams and gives you the knowledge to succeed in them.
super fun class and prof kharel is so wholesome! there is no final, just two midterms (wk 4 and wk 9 for me). readings are important tho so consider that before u take the class.
This has been my favorite class at UChicago. Professor is an amazing professor and person; I definitely recommend everyone (if they can) to take this course.
going to lectures is more helpful than you think
I do not understand why this course requires a lab–section. They were neither helpful nor relevant to what was being done in lecture. Nothing in the class referenced the lab sections, and nothing in lab sections referenced the rest of the course. With already having two lectures a week and a required discussion section, having a three hour lab section is terrible.
I'd recommend it!

I would recommend this course to:

	No	Yes
Highly-motivated and well-prepared students	13.33%	86.67%
Anyone interested in the topic	6.67%	93.33%

Thinking about your time in the class, what aspect of the instructor's teaching contributed most to your learning?

Comments
Little to nothing
Professor Kharel summarizes the concepts learnt at the end of each class, and reviews them the subsequent class, which I felt was extremely helpful!
When we discussed in small groups, then the information was repeated by the professor.
The lectures were so fun and great that you remember all content for exam without studying so much
He was always energetic and encouraged everyone to discuss in class
Engaging questions during lectures.
Practice problems presented in class and demonstrations
Kharel is very respectful, and he cares for every one of his students. He makes that clear both in the classroom and interpersonally. He puts in effort to make lectures engaging——enforces classmate interaction & tries to do special things in class to keep people interested.
Lectures and slideshows!
Lectures! What a talented talker. I can see his passion despite not really caring about physics at all. Learned some cool facts about physics concept in regular life and the economy.

Comments
Professor Kharel would include thinking exercise in class and do demonstrations that was helpful for understanding the theoretical concepts.
Professor Kharel really tries to make lectures engaging, and sometimes it works and sometimes it doesn't. It often felt like we were learning more when he just explained how to do something, but he often likes us to come to the answer ourselves.
Walking through experiment and lectures in class
his very interactive style
Openness to inclusion of all ideas and thoughts, very participatory environment
Kharel's incredibly engaging lecture style contributed to my learning. Between the engaging multiple–choice questions, getting us to discuss material among ourselves, saying yes and no in class to questions, walking into the rows and talking to us during discussions, and the dazzling demonstrations it's very difficult to narrow down what elements contributed most. Keep doing it all! You're the best lecturer I've ever had.
His want to interact with students. It made us feel special.
Kindness, dedication, passion, knowledge. He also assumed little prior knowledge, which was very useful for me.
The pace of the course was reasonable to finish any P–sets and reading reflections, as well as study for exams.
He was a really engaging lecturer who taught topics he was clearly interested in. The in class problems were great.
Conceptual questions in class
He was enthusiastic
In class demonstrations and lecture materials.
He's just the best.
His Socratic method of teaching in which he would ask us how we thought something worked before just telling us. It really reinforced the idea and concepts.
gave us a lot of conceptual questions in class to answer to enhance our knowledge.
lectures !! prof kharel is a v engaging lecturer, i really like him.
Professor Kharel is super knowledgeable and engaging. His lectures were very helpful in learning concepts.
in–class, class–wide multiple choice questions.
Professor Kharel is a very genuine person and will help guide your understanding and ask questions in order for you and the class to understand your way of thinking.
Slides and demos
Professor Kharel really knows how to engage a classroom. His teaching style is unique and makes all of the topics in class seem approachable, relevant, and interesting. He was great.
His demonstrations were always extremely engaging and he explained difficult concepts really well. His energy and passion for the subject always showed through his teaching.
The physical demonstrations and experiments in class were very engaging and insightful.
Dr. Kharel was an inspiring lecturer: he made class fun each and every single day by doing physical demonstrations of concepts we were learning, telling us stories to help us remember things, and doing everything that a great teacher will do. He was also very funny!

What could the instructor modify to help you learn more?

Comments
Find some amount of consistency, drop the no computer rule, make the labs actually relevant, sort out the assignment situation
N/A
This is not the professor, but the course overall. It would be more helpful if the lab topics were linked to what we were learning in class. It was frequently confusing that they were very different.
Nothing, he was great
Nothing. it was perfect
Better communication. I did not find Piazza to be an effecting form of communication.
Nothing
Labs were not related to class at all??
Nothing. He was really fair. I started not liking him cause I think physics is evil but towards the end I liked him.
I think there were some topics included in exams and homework that we didn't really cover in class. I think that it would be helpful if we could also discuss things that were introduced in the reading reflections.
A lot of people thought Professor Kharel was really sweet and engaging– I often found that his tone and manner of conducting class would come off as more condescending. It got better as the quarter went along, but the first few weeks felt like we were being talked down to. I don't love the way he refuses to call on people until a certain number of other people have raised their hands, forcing participation in a big lecture hall. The syllabus is also confusing/doesn't have enough information on it (discussion sections were not explained on the syllabus and lab start dates were unclear).
N/A
Better instruction of math, slower instruction for those who were not familiar with physics
Nothing. It's perfect.
Nothing, except maybe going through mathematical explanations slower
Some of the final problem sets were long and hard given that the topics they were on were only skimmed through in class.
He could maybe spend more time on those questions because I thought they were very helpful
Perhaps discussions that align more with the content, but other then that it was great!
Nothing. He brings an amazing energy to this college that really helped me succeed
Nothing
nothing
n/a
Nothing :)
Assign fewer readings of outside texts about the applications of advanced physics concepts — the readings often felt like busywork and we rarely got to discussing them in class. They also usually discussed advanced physics and science concepts that felt unrelated to the scope of what we were learning in class.
Nothing, this was an amazing course.
having more in depth slides posted
The professor was great. What could have been improved was the amount of work that was turned in without any feedback which made it all seem pointless.
N/A
N/A
N/A

The Instructor . . .

	Mean	Median	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Organized the course clearly.	4.49	5.00	2.27%	0.00%	4.55%	31.82%	59.09%	2.27%
Presented lectures that enhanced your understanding.	4.60	5.00	2.27%	0.00%	0.00%	29.55%	65.91%	2.27%
Facilitated discussions that were engaging and useful.	4.51	5.00	2.27%	0.00%	2.27%	34.09%	59.09%	2.27%
Stimulated your interest in the core ideas of the course.	4.47	5.00	2.27%	0.00%	6.82%	29.55%	59.09%	2.27%
Challenged you to learn.	4.49	5.00	2.27%	0.00%	4.55%	31.82%	59.09%	2.27%
Helped you gain significant learning from the course content.	4.53	5.00	2.27%	0.00%	0.00%	36.36%	59.09%	2.27%
Was available and helpful outside of class.	4.38	5.00	2.27%	0.00%	6.82%	34.09%	47.73%	9.09%
Motivated you to think independently.	4.60	5.00	2.27%	2.27%	2.27%	18.18%	72.73%	2.27%
Worked to create an inclusive and welcoming learning environment.	4.74	5.00	2.27%	0.00%	0.00%	15.91%	79.55%	2.27%
Overall, this instructor made a significant contribution to your learning.	4.56	5.00	2.27%	0.00%	2.27%	29.55%	63.64%	2.27%

Please include the name of the TA/CA/Intern you are evaluating. What aspects of the TA's teaching contributed most to your learning? What could the TA modify to help you learn more? Please include any additional feedback for the TA/CA/Intern.

Comments
Jonty and Rachana. Both TAs were extremely helpful in labs and discussions.
Rachana, she was great, but I feel the lab sessions were quite boring. Not much to include it was not bad, not great neither, however, I still think that you lear some ways to anylise data.
Pratiti Deb
Tanvi Deshmukh, Jonty Paul
Rachana (I don't know their last name)
I do not know their name.
Tanvi. Was very helpful in teaching what was on the PSETs.
Jonty Paul: great guy, fast and efficient grader, gave very useful information in a digestible way when asked
Jonty Paul
Pratiti Deb was my lab TA (not good) and the other woman TA was my discussion TA (amazing!). Pratiti was unfortunately kinda unprepared and mean to groups who didn't do it right. Discussion was always very constructive because even if she didn't know quite how to explain it she would keep trying until we got it. The evaluations below are for my discussion TA.
Rashana. First lab was boring but then it got fun. Rashana was down to Earth. Wish they talked about their education and interests a little more, helps me connect to my TA when I know a little about them.
Jonty
I had two TAs, Pratiti (discussion TA) and Rachana (lab TA). Pratiti was helpful on problem sets and Rachana was a great lab TA.
Pratiti
Rachana was great! she asked great questions that helped us identify issues with our methodological designs and understanding of the scientific process.
Tanvi
Jonty
Jonty Paul. He led discussion sections and labs. He was readily available to answer any questions and was understanding,
Jonty Paul. Very kind and helpful
Tanvi, her discussion section was always very informative and she always answered all the questions I had on the subject.
Tanvi Deshmukh
jonty paul
Jonty Paul. He was always very helpful during discussion sections when doing homework.
Jonty Paul
Pratiti Deb was my lab TA, and Jonty Paul was my discussion TA. I will be evaluating Pratiti Deb because I interacted with her on a more frequent basis for longer periods of time.
Pratiti Deb was very patient and helpful as our discussion TA. She helped the class with whatever questions we had about the P–Set and prepared us properly to work it all out ourselves.
The TA assisted us with problem sets and always worked to help us understand content.
Jonty was great! Kind, helpful, and supportive, same with my lab TA Pratiti!

The TA/CA or Intern. . .

	Mean	Median	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Facilitated discussions that supported your learning.	4.43	5.00	0.00%	2.86%	5.71%	37.14%	54.29%	0.00%
Gave you useful feedback on your work.	4.34	5.00	0.00%	2.86%	11.43%	34.29%	51.43%	0.00%
Stimulated your interest in the core ideas of the class.	4.17	4.00	0.00%	5.71%	17.14%	31.43%	45.71%	0.00%
Challenged you to learn.	4.29	5.00	0.00%	5.71%	11.43%	31.43%	51.43%	0.00%
Helped you succeed in the class.	4.46	5.00	0.00%	2.86%	5.71%	34.29%	57.14%	0.00%
Was available and helpful outside of class.	4.56	5.00	0.00%	0.00%	8.57%	25.71%	62.86%	2.86%
Overall, this individual made a significant contribution to your learning.	4.46	5.00	0.00%	2.86%	8.57%	28.57%	60.00%	0.00%

How much did the following elements of the course contribute to your learning gains?

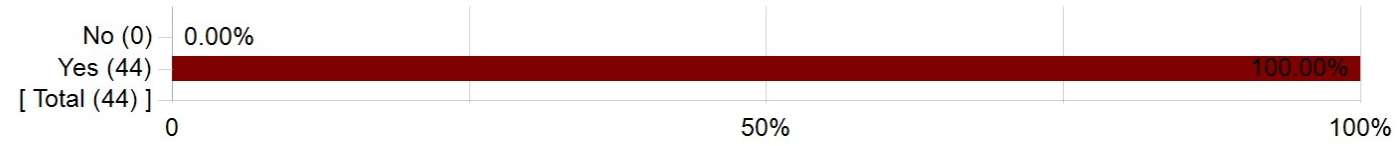
	Mean	Median	No Gain	A Little Gain	Moderate Gain	Good Gain	Great Gain	N/A
Laboratory Experience	3.21	3.00	12.82%	12.82%	33.33%	23.08%	17.95%	0.00%
Field Trips	4.25	4.00	0.00%	0.00%	0.00%	9.09%	3.03%	87.88%
Library Sessions	4.00	4.00	0.00%	0.00%	0.00%	3.03%	0.00%	96.97%
Review Sessions	4.00	4.50	3.03%	0.00%	0.00%	6.06%	9.09%	81.82%
Writing Seminars	4.00	4.00	0.00%	0.00%	0.00%	3.03%	0.00%	96.97%

Other course elements not mentioned above:

Comments
Discussion sections
No. But I would like to use this space to emphasize how little gain the lab sections contributed to learning for this course.

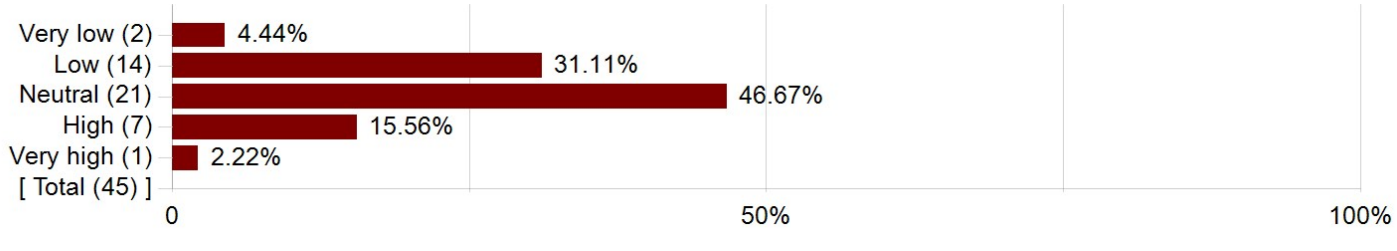
Is this class a requirement of some sort?

Is this class a requirement of some sort?

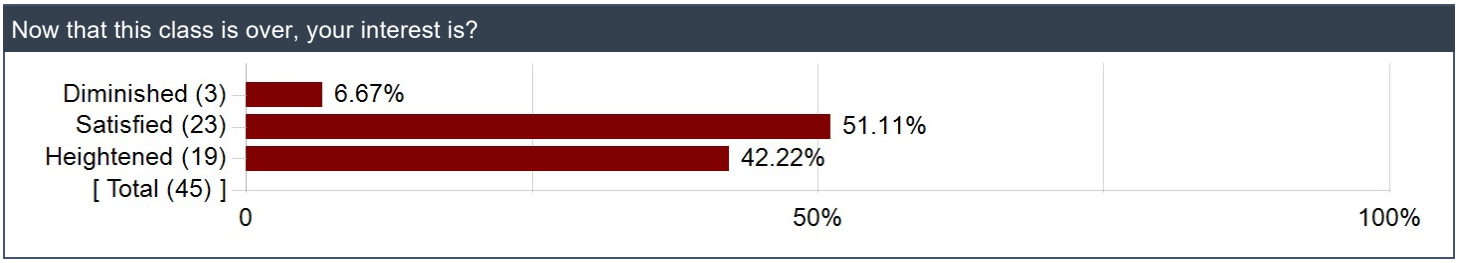


Prior to starting this class, your interest level was?

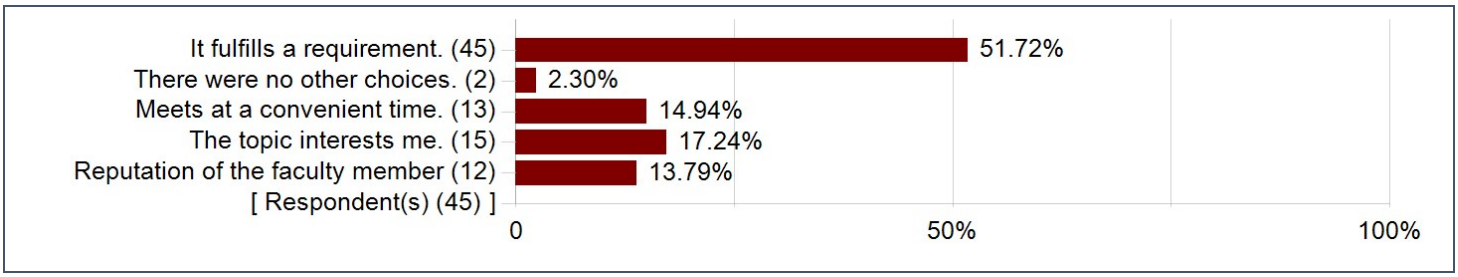
Prior to starting this class, your interest level was?



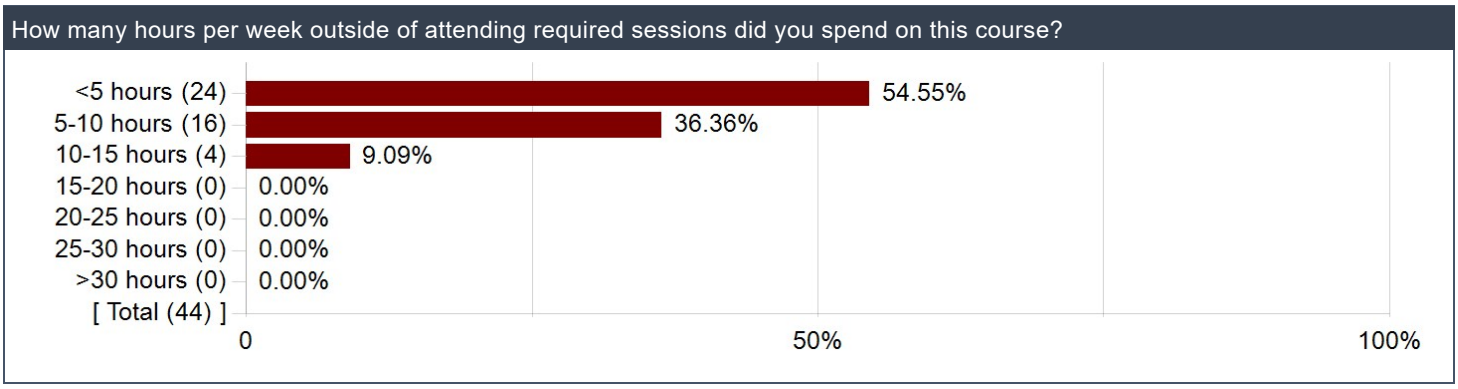
Now that this class is over, your interest is?



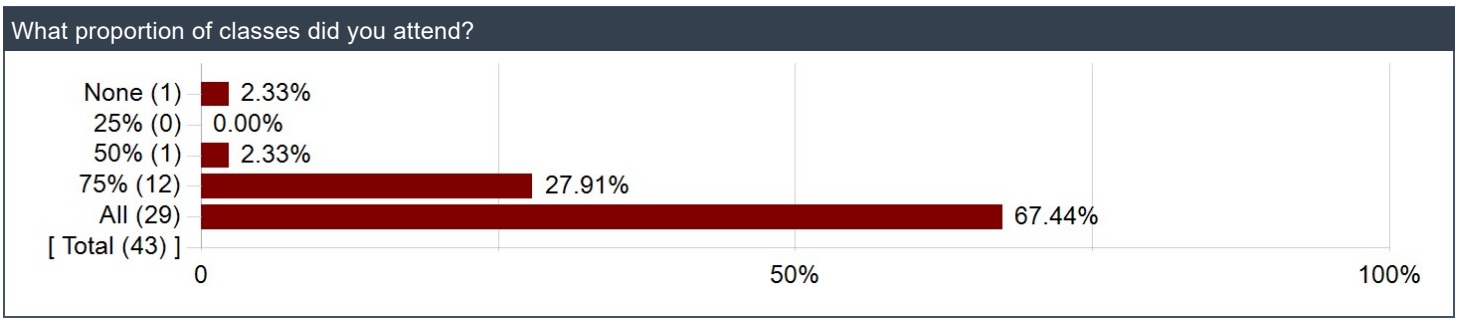
Why did you choose to take this course? (Select all that apply)



How many hours per week outside of attending required sessions did you spend on this course?



What proportion of classes did you attend?



Please comment on the level of difficulty of the course relative to your background and experience.

Comments
It is an easy way to fulfil your physical science requirement, specially if you're not a science major
Not hard– introductory course
If you have any physics experience at all, much of this course will feel slow and repetitive.
I didn't go to any lectures and I got an A
If you remember high school physics, you'll probably be okay. If you're coming in with no knowledge of physics, you might struggle briefly to find your footing, but you will do good in the class! It's designed for people with no background in physics.
Never taken physics in my life and have no background in STEM in general. Kharel made it understandable and even enjoyable in lectures. I'm excited to take next quarter with him as well.
EZ
I came into this class with a very little prior knowledge in physics and I didn't feel like it hindered me at all.
not that hard, a lot of busy work, labs and discussions and lectures add up to a big time commitment
if you put the work in you should be able to get at least a B+
tests are difficult
The course was stimulating but not intimidating. It succeeds as a primer on physics for policy students :)
Not difficult with no physics experience. Take this class for PHSC core
I recommend this course to anyone who may be nervous about STEM
Easy class designed for all levels.
I had never taken a physics class before but I still thought the material was accessible and never beyond my understanding. The topics do not ever get terribly complex and Kharel does an excellent job of approaching them.
If you want to succeed, you will succeed. He provides his style of teaching for the students that believe in themselves and want to learn
I had already known some physics prior to taking this class so It was relatively easy. For the topics I did not know from before I quickly grasped them as the lectures and discussions really reinforced the concepts.
very friendly to those with no physics background
very easy, you just have to do the readings
Having very little physics background, this was definitely doable and I understand on a basic level most topics covered.
did not take AP or normal physics in high school and was able to keep up and understand. you should really attend lecture, and discussion sections were useful for PSETs
def one of the easiest classes at uchicago. lots of busywork and some weird concepts that aren’t explained super well but generally fine
You do not need prior experience in Physics to do well in this course.
From someone who has only taken high school physics, this course was very manageable content wise but the amount of work can pile up a bit easily.
Everyone can enjoy this class!