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### Question 1 Responses

| Student | Before starting class, what preconceived notions or expectations did you have about Professor Minkara's ability to teach as a blind professor? Please also indicate if you didn't know she was blind.  |
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| 1       | I definitely knew Professor Minkara was blind, because I had read a Northeastern News article about it and that was in fact a partial motivation for me to sign up for this section of BIOE3380. My perceived notion was that I would be deeply inspired and pushed out of my comfort zone in terms of the learning style.   |
| 2       | I did know that Prof. Minkara was a blind professor. My overall decision to take her class was based on the idea that, in my mind, for someone to have the drive to teach a class in the engineering field, blind, would have to really be passionate about the material and teaching as a whole.  |
| 3       | I'm going to be honest - I had no idea. I probably would have chosen the not blind professor, but the class time just did not work for me. I suppose I had the notion that being able to see would, if not being more effective, then would at least be more normal. I tend to like normalcy in my life so I was a little nervous about taking an abnormal class in a VERY busy semester for me.   |
| 4       | I was not aware that Professor Minkara was blind before taking this class.   |
| 5       | I honestly had no idea what a classroom would be like with a blind professor. This is certainly something new to me, and as I can guess, everyone else in the class. I figured certain elements of the class would be pretty much the same, like quizzes, homeworks, tests, etc... However, I wasn't sure how the material would be presented. I figured it would be difficult to run through slides and such, or writing on the board. I knew Professor Minkara was blind because I generally look up a professor review or google my upcoming professors names to see what I can find about them and their past teaching experience. |
| 6       | I knew my professor was blind, and specifically chose to take this class with Mona because I wanted to see what it was going to be like. I didn't have any expectations before starting class - I came in with an open mind, ready to learn and experience it.   |
| 7       | I didn't know that she was blind. I looked up the reviews for the professors teaching the course. I could not find anything on Professor Minkara herself but the reviews for the other professor were not outstanding so I chose to go with Professor Minkara- and so glad I did!  |
| 8       | I did not know Professor Minkara was blind. When I found out, I did not doubt her knowledge but I wondered about how well she could convey it.   |

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| 9  | I did not know she was blind until after the first day of class when she announced it. I assumed this would be more self teaching like some other classes I have had, where the learning really comes from the homework and figuring out how to do the problems because the teacher does not or cannot explain things well.   |
| 10 | I actually didn't know she was blind before I started taking the class. But honestly even if I had known there would have been no doubt in my mind that she would be a great professor.   |
| 11 | Initially, I thought that it would be hard to learn some of the subject material as I am a visual learner and like to see examples drawn or acted out in class.   |
| 12 | I only knew Professor Minkara was blind after watching her walk into the classroom on the first day. Initially I was concerned about her ability to perceive the class' understanding of the material during lecture, but I think the system she devised works wonderfully, and more professors should implement it, blind or otherwise.  |
| 13 | Coming into the class I wasn't aware that Professor M was blind. I was unaware that she was completely blind until she had explained it to us and had only thought she was possibly partially blind as she had a great ability to address the class and recognize people (presumably through voice). I did have some expectations that the class would be run somewhat differently than a normal class i.e. the professor wouldn't be writing on the board as much, requiring me to take notes on my own better which I usually preferred.  |
| 14 | If given an option, I always research my professors prior to choosing what class I take, so I was aware Professor Minkara was blind prior to taking the class. I had no expectations on how class instruction would take place as I have never had a blind professor, however I did expect someone in her position to be extremely bright and capable.  |
| 15 | I did not know Professor Minkara was blind before our first class.  |
| 16 | I knew Prof. Minkara was blind as I like to know more about all my professors ahead of time. I honestly didn't know what to expect. I couldn't imagine how a subject as hard as Bioengineering could be not only taught but also understood when someone is visually impaired since age 2. I came to class ready for everything, but I had a feeling that I would like the class because professors that have something unique about them, always make the class and learning experience great.   |
| 17 | I didn't know that she was blind before the first class began; however, even though it was her first semester, since Northeastern's professors are very well qualified, I knew she'd be more than capable of teaching this class regardless of her disability.  |
| 18 | I was actually super excited to see how the class was going to be because I have never had a class with a blind professor. I knew that the teaching style wouldn't be the same as other classes, but although it was different, I really enjoyed it.  |
| 19 | I was curious to see Professor Minkara's teaching style since I knew it would be different from most others. I was hesitant that the class would be entirely verbal lectures.   |
| 20 | When I was choosing classes for this spring, my friends and I wanted to be in the same class. Professor Minkara's section perfectly fit our schedules, but I couldn't find any evaluations or any comments about professor Minkara's teaching, so I was leaning towards the other section. But then my friend said that he read about Mona and she seemed like a cool person and should be a cool professor. Later he mentioned that professor Minkara is blind, and I was surprised. I thought about different ways how this class can be organized because I could not understand how it is going to be possible. I seemed weird, but in the same time it was exciting. I cannot say that I had any specific expectations, but I am not going to lie, I didn't expect it to be usual.   |
| 21 | I was curious to see what the class was going to be like. Didn't think about it too much though. I searched her up when selecting courses, so I knew she was blind (through her website).   |
| 22 | I did not know that Professor Minkara was blind prior to class. As a visual learner, I was concerned about how I would be able to learn complicated math problems at first, however that was quickly solved with the printed out lectures.  |
| 23 | I did not have any preconceived notions about Dr. Minkara's teaching ability I just knew that the class would be taught differently than a normal class. My only knowledge of her and her teaching was from a friend who said one of her lectures to their lab was really engaging.   |
| 24 | Before starting class, I was aware that Professor Minkara was a blind professor. I was initially very skeptical of this, especially since she had not previously taught the class so there was no information from students on how it went. After reading the TRACE reports of the other professor, I was skeptical of what I had heard around the grading of that class. I was talking with other students that were going to be taking the class and we decided to take this section together. I had confidence that Northeastern would not hire a professor that would be incapable of teaching. I did not know what to expect, or how the class would be run, but I had faith in Northeastern's judgment that Professor Minkara would be able to teach the class. I did not expect the class to have a power point, however I was hoping that it would not be all auditory. |

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| 25 | She seemed more than capable. Given she was able to do research in the science/research field prior to teaching, I knew she has the knowledge and her preparation the first day of class gave an impression of confidence.  |
| 26 | I was aware that Professor Minkara was blind before the first day of class. I was concerned that I would not learn well because I am traditionally a visual learner.  |
| 27 | I understood that she was blind, however, I did wonder how much vision she still had. I did not know what to expect before starting the class.  |
| 28 | I was unaware Professor Minkara was blind.  |
| 29 | I had heard that Professor Minkara was blind, but wasn't sure if it was a rumor or actually true. I never had a preconceived notion about her or her teaching ability, but more so that she must be an extremely intelligent person and hard worker to be able to study bioengineering, let alone teach it.   |
| 30 | I didn't have any preconceived notions because I had never had a blind professor before. Upon my initial introduction to Professor Minkara I was blown away with her determination and ability to overcome challenges and was excited to see how she would tackle the challenge of teaching.  |
| 31 | I expected the class to be very different than other classes I have taken, in terms of explanations and the way material was delivered. I did not have negative expectations as I decided to take this section over the other one offered this semester I just thought it would be very different. I was very excited to see how it would be run.   |
| 32 | I did not know that Mona Minkara was blind before I entered the class. Upon finding out that she was blind, I did not have any initial thoughts on how this would influence her ability to teach.   |
| 33 | I thought it would be a really inspiring process to see how Professor Minkara would change the classroom in a way that would work for her. I was slightly worried that it would be difficult to understand information, ask questions, and overall learn in a different environment.  |
| 34 | Before starting class, I have a few schools of thought. One of them being the more obvious, would be that it would be very hard to learn from a blind professor. I thought that so much of learning is visual, and it is, but most of engineering concepts, and especially in this class, models are built in your head, and enough expert explanation can help create this model and help you understand. The other thought that was that Mona would be an amazing teacher because she managed to get this far. After checking out her website and finding what I could about her online, I found out that she was very funny, and someone I would enjoy being around, I was not wrong. I expected explanation to take a little longer than usual, and for her to have some aids to teach, and while this was the case, my understanding in this class was greater than for my peers with the other teacher. |

Question 2 Responses

| Student | How did these preconceived notions and expectations compare to your experience in the course?   |
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| 1       | Both were true! I didn't anticipate the actual teaching method itself, and it did take an adjustment period, but I did learn in this course.  |
| 2       | I didn't really have too many preconceived notions, and those that I did have were fairly similar to my experiences.  |
| 3       | Well, I mean, I was right. It was not a normal class. I'll elaborate on this in other questions, but the part I'll highlight here is that her blindness meant she was reliant auditory feedback that meant I felt I really did have to participate to facilitate the function of class. This participation helped me learn the material.  |
| 4       | I had a positive experience in this course. Professor Minkara always came to class prepared to teach and answer questions regarding the subject matter of that class.   |
| 5       | I think my experience was good. Before starting literally any of my classes, I generally set some bar for my expectations that is in line with my feelings towards my least favorite classes I have completed in the past., which benefits me because I feel great when I can enjoy a well taught class with interesting material, going above expectations. Given the situation with Coronavirus, and perhaps my somewhat waning motivation in general, the last part of all of my classes has left me feeling somewhat blue |
| 6       | Because I didn't come in with any preconceived notions, I'd say my experience in the course was only a positive one. It was a unique learning environment and I really enjoyed coming to class.   |
| 7       | Walking in the first day and finding out that professor Minkara was blind I was a little nervous about the class. These notions were SO WRONG. Professor Minkara is one of the most intelligent professors I have ever had. She really knows her material and is an outstanding teacher. I had an incredible experience in this course- I am very sad that it ended early but am grateful for the opportunity to learn from her!  |
| 8       | I was wrong in my notion. When I put the effort to learn, I found the class digestible and very engaging.   |

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| 9  | The reality was much better. Professor Minkara's teaching techniques worked well for my learning style. She explained concepts well and I found I was not struggling to grasp material for homeworks or quizzes. While the homeworks were imperative to learning, they were more of a hammering home concepts type of thing, rather than literally teaching myself based on answers I had to look up online because we didn't really learn them in class. I was very well prepared for homeworks and quizzes. I also had to study a lot less for this class than I thought I would have to because of how well she taught the material. |
| 10 | My experience in the course was great because everything was made very structured on a weekly basis. I didn't seem to have any trouble grasping the material and professor Minkara established a good environment for asking questions.   |
| 11 | The class was a fantastic experience, and I believe I learned more from this class than I would with any other professor. Professor Minkara is one of the only professors I've had to who really takes the time to make sure each student understands the material. I felt that she was very thorough and took the time to explain things clearly just through speech.  |
| 12 | Like I said above, my concerns went out the window almost immediately.  |
| 13 | Overall, the preparedness that Prof M came into class with was great. She came knowing all of the material which which beneficial to any questions we might have had.   |
| 14 | I had no preconceived notions about how the class structure itself would be. However yes, the professor is extremely bright and very capable.   |
| 15 | Because I did not go into the course with preconceived notions about Professor Minkara's ability to teach, I cannot compare my experience to any expectations.  |
| 16 | My expectations were not met at all, they were exceeded. I loved how the class was taught and how energetic the environment was. I thought that the class would be a lot of videos and some lectures, but the format of the class definitely took me by surprise.   |
| 17 | I had no negative preconceived notions or poor expectations even when I first found out she was blind, but once we got the feel for the class format and Professor Minkara's energetic and dedicated personality, it was clear that she was both an excellent professor, and seemingly unphased by her disability.  |
| 18 | In this course, I liked the teaching style. I liked how we were involved and actively answering questions while also taking down notes. I enjoyed the class demonstrations as well as actively asking students to come up to the board and the class helping answer the question as a whole. This was different than my other engineering courses as most of them were writing notes down and didn't have as much interaction as this class did.  |
| 19 | My experience has been different than what I was expecting. The lecture style is more interactive than in most of my other classes, and the combination of visual notes and verbal teaching from Professor Minkara has helped me learn a lot.   |
| 20 | Starting second week of classes, I knew that this will go well. I saw how organized and hard-working Mona is. I saw how much she wants to share her knowledge with the students, how she wants to be a resource and be helpful. How much she wanted everybody to learn, participate and be comfortable in her class. Yes, it was weird to answer every question instead of just nodding, it was weird to read out loud from the slides, but it got me engaged. I was present in the class, paying attention, because Mona made it interactive. I learned a lot in this class, and I enjoyed it so so much!                              |
| 21 | A lot more participation than expected (unrelated to having a blind professor, just that most courses are less participation focused).  |
| 22 | Any possible notions I had were easily handled with the way the notes were printed out as packets and given to us to fill out as we went along. I think my biggest issue is that as an extremely shy and socially anxious individual I struggle in classrooms that rely so heavily on class participation.  |
| 23 | I think that Dr. Minkara far exceeded expectations and taught her course in a way that kept students constantly engaged.  |
| 24 | I had a positive experience in the course. I found the Professor Minkara was very knowledgeable about the material and was able to answer questions well. I thought that they way it was structured with the lecture notes was helpful, and she made sure to constantly get feedback from students around the pace of the material. It exceeded my expectations as I was not sure how the lecture would be presented. I am not an auditory learner, and I needed to have the lecture notes in front of me in order to understand and learn the material.  |
| 25 | It proved consistent. She is an excellent teacher and created helpful homeworks and fair quizzes/exams to test our understanding.   |
| 26 | I discovered that having the class with Mona was much more interactive than any of my other courses. This kept me engaged and helped me to learn. The idea that I thought I wouldn't be able to learn visually did not hold.  |
| 27 | Despite the recent developments with COVID19 and the adjustment to complete this semester virtually, the course prior to this switch was taught well. Like most professors that have not taught before, errors during their lectures are common because most likely it's the first time the lecture has been given and inspected by all of the students. Prof Minkara was very much like all of my other professors.  |
| 28 | N/A   |

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| 29 | I was correct -- professor Minkara is extremely intelligent. She is an excellent professor and explains information effortlessly, which I expected.  |
| 30 | Professor Minkara exceeded my initial expectations and was a better first-time teacher than many non-blind first-time professors I have had in the past. Normally when I have a first time professor, they have a messy learning plan and are unclear on the concepts that they are trying to convey, but Professor Minkara was always prepared for class and was able to clearly articulate difficult concepts.   |
| 31 | I think these notions were correct because this class is very different than other classes I have taken and the material is delivered in a very different manner, not for better or for worse. This was an exciting class as I expected and a very unique experience.  |
| 32 | This was the first time that I ever had a blind professor. Although I did not have any initial expectations, the result did not surprise me. She was capable of conveying the material and concepts through various methods, whether it be her slides or oral explanations. It did make it a little challenging to ask questions about specific concepts at times as she could not see if a mistake was made if a fellow student or the teaching assistant could not catch the mistake.  |
| 33 | I was definitely correct in assuming I would be inspired by Professor Minkara. Every day we were in the classroom I left feeling more optimistic about my own abilities to achieve academically seeing how successful she has been. I was wrong in assuming information would be difficult to learn because I think Professor Minkara is more attuned to ensuring students understand concepts before moving on than other professors, this allowed me to really understand the content of this course. She also made it an incredibly engaging class and a comfortable environment to ask questions, which for me makes all the difference in a class.  |
| 34 | I try to always keep an open mind, after the first day of Monda explaining her disability, and learning how the class would function, very auditory with lots of mutual respect to have a collaborative learning space, I knew that this was the class for me. Mona did an exceptional job teaching students, following presentations, explaining complex subject matter, answering questions, hosting office hours and much more. I had an amazing time in class while we were still on campus, and Mona is actually my favorite professor in college, and actually my best professor in college. I think that Mona's adversary in regards to her blindness, made her excel in so many supplementary areas of teaching making her an amazing professor. |

Question 3 and Question 4 Responses

| Did it make a difference to you that such a visual course was taught to you by Professor Minkara as opposed to by a sighted professor? |        |   |
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| Student  | Yes/No | Explain   |
| 1  | Yes    | Yes. Professor Minkara would often go the extra mile to explain visual concepts by taking the time to give examples and ask multiple times to make sure we understood what was going on. I remember when I was a fridge, in an example explaining dynamic thermal equilibrium. I'm so happy I could do that! I will never forget the concept of dynamic thermal equilibrium.  |
| 2  | No     | I, personally, did not find this course as visual as some of my other classes. This, combined with Prof. Minkara's personality, really made the class enjoyable as a whole.   |
| 3  | Yes    | Yes, in a good way. Because she was blind, Minkara had to be hyper-cognizant of her teaching style in a way that most professors are not. She carefully had to memorize materials which led to careful consideration of the order material was presented in. I would also argue that this is a symbols and math heavy course as opposed to a visual one, with the exception of a few plots., so there was little loss on the visual side of things. |
| 4  | No     | It did not make a difference to me. As long as the professor understands the material and can explain it different ways, such that the students can understand, the Professor is effective to me.   |
| 5  | No     | I think this question is a bit hard to answer as a yes or a no. For example, I have no way of knowing what this course's instruction would look like in the event I had a sighted professor. And in that sense, it is hard to compare the instructors proficiency. However, I have had a comparably good time with professor Minkara to most of my other professors at Northeastern, and would definitely rate her well.                            |
| 6  | No     | I think Professor Minkara taught the course just as well as a sighted professor, if not better. She makes up for her blindness by explaining concepts very well which some professors lack. She understands how to convey things because she is blind.  |
| 7  | No     | No, Professor Minkara was so prepared every class that it didn't make much of a difference.   |
| 8  | No     | No, There are still visual aids that we were able to use. It occasionally took a bit longer to reach a class consensus on what it looked like and how the graph functioned, but I found the inconvenience minor.  |

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| 9  | No  | No, her teaching was exceptional. In comparison to all of the professors I have had she is one of if not the most adept at explaining new concepts in a way that is easily understood and applied.   |
| 10 | No  | No it did not because the energy that Professor Minkara brought to class every week made me eager to learn more during Dynamics. There was no difference in how I learned.   |
| 11 | No  | Absolutely not. Also, the differences have only been positive. Professor Minkara is very lively and she makes sure to keep the entire class involved, which I think is something other Professors could learn from her.  |
| 12 | Yes | If the course were taught by a sighted professor, it would certainly be taught in a different way. However, that way may not be superior to Professor Minkara's. I think it's valuable to learn how to visualize plots, equations, etc without actually looking at them, which I think is a skill her students pick up in the class.   |
| 13 | No  | Not necessarily as I don't have the experience of learning this material from a sighted professor, however, compared to my other classes, I noticed there was a much higher participation which in turn did end up helping me partly due to my own shyness in asking/answering questions in class. Since the professor indicated she required participation in class to know we were understanding the material as she couldn't necessarily see if we were confused or nodding that we understood, I found it helpful.   |
| 14 | Yes | It's definitely different. I am sure many sighted individuals depend on visuals to help with their learning, and a sighted professor would be better able to demonstrate and explain concepts through visuals. Having students help with visuals on the board is a good method.  |
| 15 | Yes | Yes; it was helpful to have the notes projected onto the screen for us to all follow at the same pace, and I don't think the notes themselves were much different than they would have been had they been created by a sighted professor, but other aspects of the class were definitely affected. When students went up to the board to do work, I felt that we could not always be sure they were correct because Professor Minkara could not double check despite our best abilities to communicate what was on the board.  |
| 16 | No  | It didn't make a difference because Prof. Minkara has such a good visualization ability, that no matter what questions we asked about the lecture, she was ALWAYS able to respond in a concise and efficient way   |
| 17 | No  | Professor Minkara's energetic and dedicated personality showcased that it was clear that she was both an excellent professor, and seemingly unphased by her disability. Additionally, she is BRILLIANT. The amount of material she absorbed and was able to recite to us word for word was astounding. But besides her memorization, she is incredibly smart, and well deserving of this position.   |
| 18 | No  | It didn't make a difference to me because Professor Minkara was still great at explaining everything and was very clear with her words and understanding. The visual aspect was given with the notes, but I also believe that she knew what she was talking about and was able to explain it thoroughly .  |
| 19 | No  | Regardless of her ability to see, Professor Minkara does a phenomenal job of explaining challenging concepts, including visual things like graphs. I would prefer someone like Professor Minkara to teach this course because she is committed to helping her students understand, and is able to explain concepts in multiple ways to accomodate diverse learning styles. I myself am a very visual learner, and found that this class was able to still cater to my learning style.  |
| 20 | No  | I don't think that ability to teach depends on the eyesight. It depends on ability to find an approach, to be clear, to have passion for a subject one is teaching and to be passionate about teaching in general. Mona got it all! Interacting with her was not different because she is a blind professor, it was different because she is easy to talk to, and she has great sense of humor. She was ready to help us, as students, as much as she could, make it better for us every lecture. She is a mentor and an amazing educator.   |
| 21 | Yes | No, since we had lecture slides. However I do wish the full lectures were posted online.   |
| 22 | Yes | A lot of professors now days lecture by writing the notes out with the class. Personally I find that helpful and have learned to expect that in most of my classes so it was difficult for me to to adapt to Professor Minkara's teaching style. The packets were helpful in that it gave us a visual guideline to the lectures however it was one of those instances where it made it more difficult to know when I didn't understand a topic because I was just focused on filling in the blanks not understanding what I was writing. I think students also tended to just try to learn the material they didn't understand themselves or with each other rather than in the classroom where it is easier to just ask a sighted professor to further write out calculations or explain a visual concept more on the spot. |
| 23 | No  | Dr. Minkara did an excellent job of using effective graphics and lots of preparation to be able to explain everything that came up during the course visually or mathematically. So at the end it made no difference whether or not she was sighted, rather her use of audio communication kept students far more engaged than in a normal classroom.  |

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| 24 | No  | No, having the lecture slides was very helpful. There were very few times that not being able to a graph was an issue in class. Often times Ben was able to clarify something, and Professor Minkara was still able to verbally explain what was going on. I do not think with the structure of the class that I would have learned the material easier having a sighted professor.  |
| 25 | No  | No, she taught similarly to other professors and the important portion was her ability to explain confusing topics which sight was not necessary for.  |
| 26 | No  | No, thanks to Ben's help, the essential visual components of the course could still be communicated to us. Professor Minkara successful engaged the class and had students participate.  |
| 27 | Yes | I think the fact that such a visual class was able to be taught by someone who is not sighted works to inspire the students. It says that if you are dedicated and enjoy what you do, you can do it regardless of your disability or disadvantages. For students in STEM I think it can become very easy to denounce a topic when it is difficult and having this source of inspiration is important.  |
| 28 | No  | Professor Minkara was an effective lecturer and a communicative professor which ultimately made a much larger difference in students' ability to learn.  |
| 29 | Yes | It did make a difference for me. As a deaf student, visuals are something that I rely on heavily. This class made a difference in a positive way because I felt that the class was perfect for someone with my impairment as it was taught by someone who is also disabled. Being able to meet someone with a more impactful disability than mine was also a great learning experience for me as I have seldom met other deaf people and have never met a blind person before.   |
| 30 | No  | I did not find that Professor Minkara's visual impairment affected the presentation of the course material. I think that the biggest impact of being taught by Professor Minkara was her passion for teaching and helping her students understand the material. She was very good at identifying the problems that students were having, answering questions in office hours, and encouraging class participation. These were far more impactful on my understanding of the material than anything else.   |
| 31 | No  | Just like every other teacher has their own teaching style this was no different. I did not see it as being a result of her being blind, but rather a different style of teaching. Like every teacher I've had some things worked and some didn't, but I didn't see it as a factor of her being blind.   |
| 32 | No  | I think that the value I got from this class was not affected by the fact that Professor Minkara was blind. She was able to effectively communicate her ideas through creative channels, such as having students who understand the material go to the board and help others visualize the material with aid from the rest of the class. She was able to keep the class engaged by having the class give her oral feedback which made the class more collaborative and engaging. At times, this made the class more interesting than other classes.  |
| 33 | No  | I think that I understood the content of this course more with Professor Minkara than I would have with a different professor because of the care she took to make sure students understood. Barring few occasions where I had to alter the way I asked questions or further explain my confusion, I felt like I had a normal, if not better, experience in this class.  |
| 34 | No  | No, it did not make any difference. There is no textbook for this class, and other than a few graphs, there isn't much visual stuff going on in this class. A lot of it is developing models for what we are learning inside of your head, and following along with the math. Mona has an exceptional ability to memorize presentations, follow along with your questions in the middle of derivations without any preface, and I'm sure a sighted professor would have a lot more trouble with this. Mona was able to explain this to us with lots of words over and over again in different ways, answer any question we had, and Ben hopped in whenever needed in the presentations, but did not serve as a crutch. Mona was absolutely exceptional, and deserves some kind of award for her hard work and success. |

Question 5 and Question 6 Responses

| Did you find that Professor Minkara's teaching methods differ from other professors? |        |  |
|--|--------|--|
| Student  | Yes/No | Explain  |
| 1  | Yes    | Definitely. None of my professors included a "filling in the blank" lecture, and whatever was taught to us would usually be available in full after the class, either through the textbook or uploaded notes; This is something Professor Minkara didn't do and it forced me to fully understand the concept in the moment. At the times I wasn't able to keep up, rewriting and understanding the notes after class definitely did. |

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| 2  | Yes | Yes, her use of slide printouts was something new to me. I've taken some classes where professors have recommended that we print out the slides, but I've never had a professor print them out for us every class. The use of "blanked slides" was also new for me. On another note, she taught a much more interactive engineering class than any other I've taken.  |
| 3  | Yes | I already noted the emphasis on class participation that helped teach the material. I haven't had a college class that required as much participation as this one. I also   |
| 4  | Yes | Professor Minkara demands participation in her course. She wants her students to be present in class and makes an effort to make sure they all understand the material. She consistently asks the class for feedback. This is more interaction than the rest of my professors combined.   |
| 5  | Yes | I'd say most of the instruction is very similar. One thing that differs is the method of giving notes. I'm usually used to having fully filled out notes or powerpoints / lectures posted by the professor. This is generally more in line with what I prefer. I'm well known amongst my friends for not taking notes, as I feel that my personal notes are lacking, and anytime I take notes I never really look back on them. I also believe in my study habits well enough that if the material is available to us in some format, I can appropriately prepare for exams/quizzes. For these reasons I prefer completed notes, but I understand that this is not the case for everyone. |
| 6  | Yes | Her teaching methods are definitely different from others. She provides us with blanked lectures and we fill them out during class - this way, we get all the necessary information that we're supposed to have. No tricks. The class is very reliant on student-teacher interaction, if we have any questions we just speak.   |
| 7  | Yes | At this point in my academic career professors feel that taking notes and participating in class is up to the student. I appreciated that Professor Minkara pushed us to participate and be engaged as I think it helped with learning as well as general interest in the material. It was different in the best way.   |
| 8  | Yes | Yes. This was one of the most engaging classes I have been in. The necessary audible feed back and "call and response" questions kept me engaged with the material.   |
| 9  | No  | No, her teaching was actually quite similar to other lecture based classes I have had. One difference was having pre-typed notes that just had fill in the blanks, which was nice when trying to write things down in a timely manner. Going over material was what I would expect for any professor teaching this type of class.   |
| 10 | Yes | Her methods did differ from that of other professors because she relied a lot more heavily on class participation. This usually kept the class more engaged, particularly towards the end of the week.  |
| 11 | Yes | Her methods definitely differ as she relies on her memory and talking and also using the students to write and act concepts out. Other professors can rely on their notes and write things on the board. Now I actually prefer Professor Minkara's teaching methods, I feel more involved in the class and it makes it so I pay attention better.   |
| 12 | Yes | Yes. She takes more time to verify that we understand, which is nice. The blank presentations she gives us are also nice, we don't get those in any other class. Ideally, I would take notes on my own in a blank notebook, but there is just so much material to write down in this course that I think the blank presentations are necessary.   |
| 13 | Yes | Her active participation requirement was much more responsive and the attitude she brought the classes made my classmates seem much more open to discusses and participation as a whole.  |
| 14 | Yes | Similar to Question 4, teaching methods differ between professors based on many things including their personalities, how they learn, and the tools they have in which to teach. Professor Minkara's teaching methods are different from what I have experienced in my more technical classes, as most professors are very "board heavy" and are always writing equations and methods on the board or solving equations.  |
| 15 | Yes | Yes; in my experience, other professors do not give out blanked handouts of the notes for students to fill out. The class was also based largely on auditory feedback, so there was much more participation than typical of an engineering class.   |
| 16 | Yes | I never had a class with a "Fill in the blank" format. At first I thought it would be extremely ineffective and we would not pay attention in class as we just had to copy what was on the slides. I then realized that this method actually made the class more effective. Since we had all the essential notes we needed on paper, we could focus more on questions. In other classes, questions can prevent professors from finishing up what they have to do and are not able to transmit everything to the students. By having all of the notes already, we avoided all of that  |

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| 17 | No  | Not really, many professors just read off of the slides they prepared for lecture, she just has to memorize them in advance. She kept us more engaged than any other professor I've had that has had lectures prepared in advance of class.  |
| 18 | Yes | Yes, usually teachers would write the notes on the board, but here, the notes were present on the board. Instead of it just being looking at the notes and writing it down, it was more of an interactive class where we all read off the board and answered questions. Professor Minkara would also read the notes out loud and that would help as well.  |
| 19 | Yes | Professor Minkara is more committed to getting feedback from her students, both in the middle of lectures and in general. It is clear that she is enthusiastic about teaching and really cares about her students and their understanding. In terms of general course structure, the grading breakdown and exams resemble many other classes I have had in the past, but the pace and content of her lectures are much more interactive. After my experience with Prof. Minkara, her being blind has contributed an additional level of understanding to the course that a sighted person would be unable to, since she is so good at describing what is going on. |
| 20 | Yes | Yes, her methods are different for such course. Usually professors write on the board, solve examples, while Mona has all the information on the slides and she lectures. On one hand, you can pay more attention to listening and truly understanding the material, not just coping from the board. But for me personally, it's important to take notes, so it was hard in the beginning, to copy from the slides and listen, it felt like a race, but I adapted and realized how much more I remember from each class.   |
| 21 | Yes | A lot more talking/participation than most classes.  |
| 22 | Yes | As I've mentioned before having a packet to fill out was helpful but also a difficult change to adapt to. I felt as though I was rushing to fill out the missing blanks as the lecture went along rather than writing notes along with the lecture. However, I don't see how Professor Minkara could have done the lecture any other way. The class also relied so heavily on participation it was very different from other classes.  |
| 23 | Yes | Her teaching methods differed in that we had to give her verbal cues about whether or not we understood and she always paused to address confusion. She also made us do a lot of reading during class as opposed to her lecturing which kept students constantly participating and engaging in the course. This helped greatly with the retention and understanding of the material.   |
| 24 | No  | She was still able to lecture as if she was a sighted professor. The structure of the class was similar. If anything, I had more issues with there being a lack of additional material to look over and study from for quizzes and exams aside from the problem sets and lectures. This was different from other classes as there was no textbook, and the homework was not done through a program such as Mastering Engineering, like bioelectricity, or Organic chemistry. This limited the amount of material we had to study from, but the overall structure of the class was similar to other BIOE undergraduate courses.                                     |
| 25 | Yes | It was more interactive. As opposed to just reading slides of information, she made it so we were participating and understanding as we went along.  |
| 26 | Yes | Professor Minkara actively engaged the class much more than other professors of mine and she required participation. Requiring us to articulate our thoughts and communicate effectively to Professor Minkara improved our learning.   |
| 27 | Yes | Her teaching was very much dependent on the class and their participation, reactions, ect. while in my other courses the lecture goes on regardless of the students involvement.   |
| 28 | Yes | Most professors do not have such organized and pre-defined lectures. I had encountered lecturers who gave students partially blank notes to fill out during the lecture, but this is relatively rare.  |
| 29 | Yes | I found that Professor Minkara's teaching method was much more organized than other teachers typically are. I appreciated this greatly. I also feel that she is the first professor I have had that actually wants you to come and ask her questions and discuss the material.   |
| 30 | Yes | There was a small learning curve to Professor Minkara's teaching style but I don't think this was any different than adjusting to any other teacher's teaching style. Professor Minkara's class requires a lot of participation and might challenge some students that are not as comfortable/confident participating in class but Professor Minkara is sure to make the class a welcome and non-judgmental environment.   |
| 31 | Yes | There were very few solved out problems which was very different from almost all of my courses within the major. I also find that making part of the grade going up to the board was very different from other professors and very bias towards outgoing students. The way notes are done are also different than most professors I have had.  |

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| 32 | No  | I don't think that her teaching methods differed per se from other professors. Of course, some aspects of the class had to be adapted. For example, she cannot see if someone had a question so you would have to should out instead of raising your hand. But we still had presentations, and notes and quizzes, and participation, and normal exams, as a normal class would.  |
| 33 | Yes | I think Professor Minkara focuses more on making sure students are understanding material and making herself available and willing to go over concepts more than any other professor I've had. She fosters an environment in class that makes everyone feel comfortable to ask questions and show when they are confused, which has never happened in another classroom that I have had. It is also helpful to have pre-filled out notes that we can fill in, it really helps with learning and not being overwhelmed by information.  |
| 34 | Yes | Honestly not much. I don't think for this class that it could have been taught much differently. Despite this she had a few key differences. She immediately set out how the class would run, and how we would participate constantly, read outloud, write on the board, and always participate. There was a mutual respect relationship for everyone in the class. I think that this style of teaching actually beat all of my other class styles. By having students constantly ask questions, and be asked questions, and fill in what might be next, enhances understanding and attentiveness exponentially. I would advise all other teachers to follow her teaching methods because it is extremely effective. |

Question 7 and Question 8 Responses

| Did you find Professor Minkara's office hours to be effective? |              |  |
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| Student  | Yes/No       | Explain  |
| 1  | Yes          | Yes. I enjoyed the tea and candy as a learning support. I also felt there was an openness and comradery between Professor and the students, which made it easier to ask questions and therefore learn.   |
| 2  | Yes          | I only went to office hours once, but I felt like the conversational atmosphere was very productive towards learning, and the dependence on others to help explain things was beneficial as well.  |
| 3  | <Unanswered> | I can't actually attest to this - I was often working when she had office hours  |
| 4  | Yes          | Yes, Professor Minkara helped me to understand what I should be focusing on during my independent studying. She answered any and all questions I had. She helped clarify questions that I was not sure about.  |
| 5  | Yes          | I've only went once but any questions I had were answered and Professor Minkara made sure everybody felt comfortable   |
| 6  | Yes          | Yes, professor's office hours were a great learning environment where if I didn't understand something, either the professor, her TA, or even other students that were there could explain it to me. Whenever I went, there were other students there willing to help me.                                  |
| 7  | Yes          | Yes, yes yes! If you take this class absolutely go to office hours.  |
| 8  | No           | I did not go to office hours   |
| 9  | Yes          | Yes, for things that I did not completely understand in class she was willing to go over them again with me, and try and explain them a different way.   |
| 10   | Yes          | She did a good job of setting up enough time outside of class for us to ask questions.   |
| 11   | Yes          | Again, Professor Minkara really takes the time to make sure each student understands the concepts. She will talk with you one on one and walk you through the problem or concept until you fully understand. She also has the students explain the concepts to each other, to ensure a good understanding. |
| 12   | No           | N/A, I've never attended   |
| 13   | Yes          | Although I was not able to go often, when meeting with her, she was very helpful and good at directing where to go with the meeting.   |
| 14   | Yes          | Absolutely. Office hours are a great tool and I am a huge fan. I wish I could have made more of them but due to my schedule I could rarely attend. However when I did, we were able to focus on difficult concepts my peers and I struggled with and I left with greater understanding.                    |
| 15   | Yes          | Yes; the main difference was that we had to describe the problem to her, but otherwise I felt that office hours were a good way to get one-on-one help.  |
| 16   | Yes          | I never personally attended OH, but from what other students said I heard it helped them a lot   |

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| 17 | Yes | Yes, she was very helpful, and always going the extra mile to check in with students so that everyone does well and gets the most out of the class.  |
| 18 | Yes | Yes, I went to almost all of Professor Minkara's office hours, except 1 and I thought they were all very helpful and gave me a deeper understanding of the material.   |
| 19 | Yes | Professor Minkara was able to explain concepts in close detail when her students came to office hours for help. She was also able to get students to explain concepts to other students in her office hours, which helped if there were any miscommunications.   |
| 20 | Yes | Yes, they definitely were effective! It was a good chance to go over homework problems or past quizzes, clarify material and go over the questions. Mona always had materials prepared. But also, it was just pleasant time to chat with classmates and Mona, to help each other out, drink tea. Good times!   |
| 21 | Yes | Yes  |
| 22 | No  | I was never able to attend office hours due to scheduling conflicts so I don't know  |
| 23 | Yes | I think she was able to let us learn for ourselves while providing guidance during office hours  |
| 24 | Yes | N/A. I did not attend office hours. Other students found them helpful. If I had a question after class, I found Professor Minkara was able to answer it very clearly.  |
| 25 | No  | I didn't use them but I'm sure they would've been helpful.   |
| 26 | Yes | Professor Minkara's office hours were effective when I could be there; however, it was not often that I could attend due to scheduling conflicts.  |
| 27 | Yes | I think having a session that was primarily verbal helped me understand the material in a different way that I am used to (i.e drawing pictures). I believe that being able to learn in different ways is an important skill for a student and those planning to enter the R&D fields.   |
| 28 | Yes | Professor Minkara was willing and eager to help at office hours, which ultimately made the biggest difference. In some ways, professor Minkara being blind actually made office hours better, as in reading the problem/my work out loud, I often figured out the error in my work when I otherwise wouldn't .   |
| 29 | Yes | Professor's office hours were a great way for me to fully grasp the material as it was a more intimate discussion about the material that class time could not always offer. Office hours were imperative to my learning in this class.  |
| 30 | Yes | Yes! I felt that Professor Minkara's office hours were incredibly effective and essential to my success in the class.  |
| 31 | Yes | Was good to have questions explained further in depth.   |
| 32 | Yes | I attended one of Professor Minkara's office hours and it was effective. I got all my questions answered, and, with the help of her TA, she was effective at understanding and answering any questions that I had.   |
| 33 | Yes | Professor Minkara was so responsive to questions, I always left office hours feeling like I had all questions answered. They were always very full, so maybe booking a larger room in the future would be helpful.   |
| 34 | Yes | I found Monas office hours to be the most effective out of any of my teachers at Northeastern. At the beginning Mona always offers some tea, or some candy, and talk a little bit about our day. I am very close with Mona and miss speaking with her everyday. She is very caring, and so much fun to talk to. She brings lights to everyone day, and office hours was no exception. Mona has the ability to memorize tons of information at once and follow along with you anywhere you are in the information, and respond accurately. Granted this comes with lots of practice, and time put into the material, but I found that lots of students were attending office hours because it would help aid understanding, but also because it was fun being around Mona. She would explain any misconceptions we had, work out practice problems with us on the board, and made sure we didn't leave without understanding. |

## Question 9 and Question 10 Responses

If you found yourself in a teaching or mentoring position in the future, do you believe you would be able to effectively teach or mentor a blind student?

| Student | Yes/No | Explain   |
|---------|--------|---|
| 1       | Yes    | Though I would have to learn more about technical learning/teaching resources, I do have a much better idea of the experience the blind individual may be enduring. The way I feel I've been able to connect with Professor Minkara, I would be able to connect with the blind student. I'm thankful to have gained this experience that has helped me and may help others in the future. |
| 2       | Yes    | I'm not sure I would succeed 100% at first, but I think Prof. Minkara has really enlightened me in regards to blind people, and some of the smaller things it takes to communicate effectively with a blind person.   |
| 3       | No     | There was nothing in this class that prepared me for that sort of thing. This was a class made by a blind professor for able-sighted students, not the other way around. I would need exposure to a blind learner as opposed to a blind teacher to prepare myself for that.   |
| 4       | Yes    | I believe I would be able to mentor a blind student using the methods I've learned from the professor. I would have to be verbal and consistently check in to ensure that the student is following and comprehending the material. While I'm sure I would face many challenges, I would be motivated to be the best teacher I could be, especially after taking this class.               |
| 5       | Yes    | I'm not sure. Obviously it depends on the blind student's abilities, but I would try to work with them, as well as utilizing whatever resources Northeastern provides.  |
| 6       | No     | I don't think I am very good at explaining the way things look and how math works out sometimes so I don't think I could effectively teach or mentor a blind student. It's very hard to use the right words and create the right pictures in their minds.   |
| 7       | Yes    | Honestly I'm unsure, but I think that after taking this class I am much more educated on how I might go about tutoring a blind student which is an extra thing that I learned that I greatly appreciate.  |
| 8       | No     | No, not at first. My experience with Professor Minkara showed me the amount of mental calculation and visualization that is required to work complex mathematics without sight. I do not think I would be able to explain and guide someone in the way they would need to think.  |
| 9       | No     | I'm not sure. Seeing how Professor Minkara works would be very helpful to me, but others who are also blind may think differently than her, so it would depend on who. Knowing that she can see these complex equations and graphs in her head and really visualizes them would help me in knowing how best to describe things.   |
| 10      | Yes    | While I think it would definitely be difficult at first, it has become clear to me through this class that a sight deficiency does not impact one's ability to master a course. I would just have to change my teaching style to accommodate the student and make sure he/she is able to grasp the material.  |
| 11      | Yes    | Professor Minkara's teaching style has definitely opened my eyes to the way in which blind people think and operate. I believe I could assist a blind student in some ways, even if it is just being patient and listening to them or trying to help them understand something. Professor Minkara has also exposed us to some different tools she uses to aid her throughout the day.     |
| 12      | Yes    | Yes. It would take some outside the box thinking, but I definitely think it could be done. I'd have to figure out how to use my words to paint a mental picture for the student.  |

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| 13 | Yes | Possibly. I've always found myself to be a visual learning where I try to imagine how equations, chemicals, mechanics, etc work in my head by constructing how I think they make sense. I think I have a limited understanding of how I would have to explain things, as I'm sure blind students also learn in different ways as well, but it would come down to explaining the best for someone without the ability to necessarily see.  |
| 14 | No  | As much as I want to check yes, I believe there is so much I need to learn about how blind individuals perceive and learn so I would be better able to explain concepts and reach them. I want to teach in the future, and I desire for my classes to be as accessible as possible. Being taught by Professor Minkara gave me some insight into this.   |
| 15 | No  | If I had to teach highly visual material to a blind student (for example a circuits class), I would not be confident in my ability to adequately describe it to them. However, if the material was not as visual, I might be able to.   |
| 16 | Yes | I think I would be pretty effective as I have already experience tutoring. I would definitely need to learn more techniques on how to explain to a blind student a visual concept. I know some of them, but I am sure there are more.   |
| 17 | Yes | I do not want to be presumptuous in saying yes, because I know how much Professor Minkara had to put in behind the scenes of our class. We got the pretty picture in a final product called lecture, but there was a lot of time and effort that she put in in preparation. From what I do know from our time in class together, I know how that communication is key. Asking questions is critical. And being able to describe something in a non-visual way is extremely helpful. |
| 18 | Yes | I wanted to choose the option of maybe, because I'm not sure if I would be able to, but I certainly think I would be able to help. It would be more of an audio helping with more talking and interactive talking than just visual displays and writing.  |
| 19 | No  | I would need additional support and training before being confident in my ability to mentor or teach a blind person. After being in Professor Minkara's class, I feel that I am more aware of the unique experiences that blind students and teachers have, but I feel I would have to adapt my teaching style to fully be able to communicate new learning material without the use of vision.   |
| 20 | Yes | I don't see myself as an educator. I don't think I have that courage. But if I did find myself in such position, I know what kind of teacher/mentor I would try to be. Mona is incredible example for me, and she inspires me so much. As a woman and as a scientist! I think I would succeed eventually, because I would try to be better every day. As they say, learn from the best!   |
| 21 | Yes | If people are willing to learn, I don't think it really matters.  |
| 22 | No  | I'm very visual and to be honest, I think I would struggle a lot. It would be something I could definitely learn and would want to be good at but it would take a lot of learning on my part to do so.  |
| 23 | No  | I do not think I would be prepared to teach a non-sighted person as my best method of communication is visual. However, that being said I think I understand better how to use other forms of communication to teach now.   |
| 24 | No  | I do not know if I would be capable of teaching or mentoring a blind student. I do not think that I would have the adequate skills to effectively verbalize the material that I was trying to teach. With time, I might be able to work with the student, but it would likely require a lot of trial and error.   |
| 25 | No  | I don't think I'd be a good teacher to begin with.  |
| 26 | No  | I would need much more practice than I currently have to consider myself effective. However, after taking this course I would say I would be a better mentor or teacher to a blind person than before.  |

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| 27 | No  | I think I would need a lot more research and also I would need to get to know the student. I tutor elementary school girls in math right currently and my entire process would shift if I could not draw them pictures. I would need to understand how to better explain the topics but also get to know them so I could understand how they think.  |
| 28 | Yes | I am now more aware of assistive devices that would be an option to facilitate communication. I also have an understanding about how different amounts of size can make certain aspects of visual learning an option for blind students an option (i.e: large print may be read by certain blind students).  |
| 29 | Yes | I want to say yes because I have tried to be as great at responding as possible and opened myself up to learning visually and by discussion. I would definitely not be the best teacher/mentor to a blind student, but I think that I could do it in an effective way.   |
| 30 | No  | As a very visual learner and more importantly, a visual teacher, I do not think I would be equipped to mentor a blind student. As a current tutor, I have had to switch over to an online platform to tutor students concepts I normally demonstrate in person and have found it incredibly challenging. Although I am learning how to communicate concepts audibly, I'm still aware of my own shortcomings in this respect.   |
| 31 | Yes | I think after this semester I have a greater insight into the best ways of communicating with a blind person. I think it is all about being open minded and adapting.  |
| 32 | No  | This would depend heavily on the subject matter, but I find that when something is hard to explain, I instinctively reach for a pen and paper. I am very visual, and best explain things using diagrams and figures. It would be quite difficult for me to explain a topic if I didn't have access to these tools.   |
| 33 | Yes | I hope to pursue a PhD and teach one day later in life. I hope that I would be an instructor who did anything and everything to help my students. I would have to lean on others with shared life experiences if I had a blind student, but I am confident I would do my best to ensure that student had the same quality of learning.   |
| 34 | Yes | I'm not sure I would be able to teach a blind student, but I am definitely not opposed to ever having a blind professor again. I didn't learn many methods for teaching blind students, but I could only imagine how hard it is for that student. Because of how Mona talked about her hardships with previous teachers and how they gave up on her, and observing how hard she works, and how she learns, I think I would be successful with enough perseverance and feedback that I could effectively teach a blind student. |

Question 11 and Question 12 Responses

| Reflecting on your experiences in this course, do you there should be more blind educators in STEM? |        |  |
|---|--------|--|
| Student   | Yes/No | Explain  |
| 1   | Yes    | ABSOLUTELY! Mona has showed us, it's possible. Not only that, but I've learned more in this class than I have in a lot of my other STEM courses. I think the joyful and collaborative nature of our class helped a lot, but it was Professor Minkara who ignited that spark to have a lively classroom experience.   |
| 2   | Yes    | In my opinion, most people, especially at the university level, if you give them a textbook, could teach themselves. Thus, the goal of the professor is to bring an enthusiasm about the topic, breakdown ideas into simpler concepts, and share their perspective on topics to broaden one's own perspective and understanding. Therefore, a bland, monotonous professor is essentially useless, and so I think STEM really needs more professors who have a passion for what they are teaching, and not just fulfilling a university requirement. In the case of Prof. Minkara, I think she was an exceptional teacher in this regard, and if having more blind educators means having more professors like her, then I think there should be many, many more. |

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| <b>3</b>  | Yes          | I mean, there's nothing blindness takes away from a professor's ability to teach that can't be fixed with a little hand-waving and a trusty TA with a computer. If anything, having a disability improves the class because it really forces the professor to be aware of their teaching styles. It forces them to care, and that's more than I can say of some of my able-sighted seeing professors. The effort and care a professor puts into teaching a student is what makes a professor good. I suppose this line of reasoning could be applied to other disabilities as well.  |
| <b>4</b>  | Yes          | There should most definitely be more blind educators in STEM. To me, STEM is all about creativity. It is about approaching a problem from as many different angles as possible. It is about thinking outside the box. Blind educators bring a unique perspective to the table. They may use alternative methods to understand or explain something, which could be very useful to students.  |
| <b>5</b>  | Yes          | Similar to some other questions, I think this question depends on the intent of the questioner. As a champion of equality of opportunity, I think everyone should be given a chance in whatever they wish to do with their aspirations and careers. I think that adequate avenues should be given to those who wish to join STEM, including educators.   |
| <b>6</b>  | Yes          | I think everyone should get the chance to experience a blind educator.   |
| <b>7</b>  | Yes          | I think that should a blind person want to be an educator in STEM they should not let anything stop them- Professor Minkara is an excellent example of a very effective blind professor.   |
| <b>8</b>  | Yes          | I think that, if they are able to capably and succinctly teach to both blind and sighted students, there should be no barriers for blind teachers or any other teacher.  |
| <b>9</b>  | Yes          | Based on her teaching ability, being blind did not impair her at all. She is significantly better than a number of sighted professors I have had. She has gone above and beyond what many do with no impairment, and has shown that it is definitely possible to be a superb teacher.  |
| <b>10</b> | Yes          | Professor Minkara shows that there really is no boundary for what a blind person can do. I think there should definitely be more blind educators in STEM.  |
| <b>11</b> | Yes          | I think it would be a great idea to have more blind educators in STEM. I believe their style of communicating knowledge is very powerful and useful to students. I specifically mean the way they utilize speech, in the classroom this leads to more care and time spent on their explanations. This also means students are more engaged and can understand the material to a greater degree.  |
| <b>12</b> | Yes          | I don't know why there aren't more blind educators in STEM. My learning in Professor Minkara's class has had as much, if not more quality than my other courses up to this point.  |
| <b>13</b> | Yes          | I don't think there should be impossible roadblocks for anyone who wants to teach. I think it would come down to the professor, not the ability they may or may not have. If they have the passion and come in prepared, their teaching ability will speak for itself.   |
| <b>14</b> | Yes          | There should be more tools out there to help people from all walks of life. There should be more resources for blind students as they have just as much intellectual capability as sighted students, however due to the inability of the education system to understand how to properly instruct them, many become discouraged. So with adequate resources and an equal opportunity to learn, there should (and will) be more blind professors.  |
| <b>15</b> | Yes          | I think aspiring blind educators should not be daunted by STEM because there are ways to reformat the class, and with the wide range of topics in STEM I feel that concept-based classes would be very feasible to teach. However, I imagine that highly visual classes might not be possible for a blind educator to effectively teach (again, using circuits as an example).   |
| <b>16</b> | <Unanswered> | After taking this course, I don't think that blindness is the characteristic I would emphasize when talking to someone about prof Minkara. What I would emphasize is her charisma, her passion to teach and learn, her energy in class and her desire to make everyone feel welcomed. These are the characteristics that I think define prof. Minkara and that I think every professor should have. My guess is that part of why prof. Minkara is so great is that she decided to not let her disability to change her life and dictate what she could do. So I think blindness helped develop all of those characteristics. So, to answer the above question, I would say there should be more educators like Prof. Minkara, not necessarily blind. |
| <b>17</b> | Yes          | Absolutely. Professor Minkara is proof that someone who is well deserving of such a position should be given the opportunity.  |

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| 18 | Yes | Yes, learning from Professor Minkara was great and I thought that she was as good as other professors, if not better than some at teaching. She knew her material well and put in the effort to make sure that all her students understood and she cared about her students. Being blind didn't take away from her teaching in anyway.   |
| 19 | Yes | Professor Minkara has proven to be an extremely bright, dedicated, caring, and effective professor. She has shown that the many challenges that blind educators face can be navigated and overcome. I would love to see more resources in academia to support blind educators and educators with disabilities so that STEM fields can become more diverse.   |
| 20 | Yes | I don't think it's a 'yes/no' question. I suppose, there might be more professors who are blind because there is no difference from whom to learn. I would say that blind professor is totally normal and possible.  |
| 21 | Yes | If they have the teaching ability and experience, I don't see how vision would be an issue.  |
| 22 | No  | I don't know if I would say there SHOULD be. I think there can be and it's possible, but not like they are needed. I think the word "should" makes that a difficult question. I  |
| 23 | Yes | I think that the style of teaching the Dr. Minkara has created is highly engaging for all the students in our class. And if more blind educators emulated and developed her teaching style students would have highly effective teachers.  |
| 24 | Yes | I did not find my learning to be hampered by having a blind professor. I think that if they have the skills required to memorize the lectures, and have a solid grasp on the material that they can effectively communicate to the class, then they should absolutely be allowed to and be encouraged to become professors. I have had sighted professors that have been far less capable of teaching and helping students.  |
| 25 | Yes | I think more blind educators would be helpful because it forces them to teach more interactively which I think helped significantly for this subject.  |
| 26 | No  | I don't think all courses cater well to not being visually supplemented. I don't think blind professors shouldn't be allowed, but I also don't think they should be sought after.  |
| 27 | Yes | Like I said above, I think that there should be more inspiration in STEM classrooms, it is very easy to lose sight of why you chose STEM.  |
| 28 | Yes | I was surprised when I heard Professor Minkara was more or less the only blind professor in the country. I felt Professor Minkara's blindness in no way negatively impacted her teaching.  |
| 29 | Yes | Yes. I do not think blindness is a barrier that is too large for STEM. I am a deaf student in STEM and can speak from first hand experience that being disabled does not mean debilitated. Professor Minkara is an excellent example of this as she is one of the most intelligent and motivating people that I have encountered at Northeastern (and in general).   |
| 30 | Yes | Yes. I think that Professor Minkara is an inspiration to the blind community. She is an example to anyone who aspires to be a educator.  |
| 31 | Yes | I think everyone should have an equal opportunity to do things if they are passionate and qualified. If there are blind STEM educators in application pools they should be given an equal opportunity for the job with all other candidates.   |
| 32 | Yes | Mona Minkara did very well in working around the fact that she could not see and was still very effective in conveying the material and keeping the class engaged and valuable. It was definitely a collaborative effort between the professor and the students, and she has explained the challenges that she has experienced in the role as well. Being an educator in STEM while blind will definitely bring its challenges, but that is not to say that a blind educator cannot be as effective as one that is not blind, as demonstrated by Professor Minkara.  |
| 33 | Yes | I think Professor Minkara being blind has only enhanced her skills in teaching, she is understanding and optimistic and puts great focus on her students. I think blind professors have these enhanced connections with students as they are more willing to work with students to help them learn. If i ever had the option to take an engineering course with a blind professor again, I 100% would.   |
| 34 | Yes | I definitely do think there should be more blind professors in stem. I'm not sure if every teacher has the drive and ability that Mona does, but she definitely set an amazing precedent for others to come after her. I told my parents the first day that I had a blind professor and they were initially mad, but i continued to talk to them about how amazing Mona was as a teacher, and that she was my favorite teacher of all time. I think by setting up the classroom dynamic early like mona did and maintaining the environment, any blind professor could be effective, but not as good as Mona :). |

## Question 13 Responses

| Student | Please provide any additional comments that you would like to share regarding Professor Minkara's teaching as a blind instructor:   |
|---------|---|
| 1       | I would like to thank not only Professor Minkara, but all of her aides doing hours of behind the scenes work that us students may not see/verbally appreciate enough. I've enjoyed this classroom experience thoroughly, and the brightness that Professor Minkara embodies when she teaches inspires me endlessly.   |
| 2       | I would say that more of my comments are in regards to her teaching style, aside from being blind, but, rather, being new to teaching. So, as far as teaching while blind, I think she did an excellent job.  |
| 3       | <Unanswered>  |
| 4       | Professor Minkara was a great Professor. She did a great job teaching the course. My only regret is not being able to finish off the semester with her. It is clear that she cares about her students and wants them to succeed.  |
| 5       | <Unanswered>  |
| 6       | Professor Minkara did a fantastic job teaching this course and always remained enthusiastic. I'm glad that I got the chance to take her class.  |
| 7       | I loved my time in this class and getting to know you. You have honestly been one of my favorite professors at Northeastern. I hope that we will be able to stay in contact after this course is over. I look up to and respect you so much.  |
| 8       | The style of the class was strange at first, but when I got used to it I enjoyed the class. Personally, I do not enjoy the biochemistry side of the Bioengineering program at Northeastern, but the Professor made the class enjoyable and easy to understand.  |
| 9       | <Unanswered>  |
| 10      | Honestly just a great experience overall, and inspiring to see that nothing was able to hold her back in life. I wish you the best of success moving forward at Northeastern!   |
| 11      | It has been great being in class with Professor Minkara. I really feel that this is one of the few courses where I've understood the material, which is all thanks to Professor Minkara. You can tell she really cares about her students and really understands the material.  |
| 12      | You're doing a great job. Stay funny!   |
| 13      | I came in not knowing about Professor M being a blind instructor. She came in everyday prepared for class, clarified her expectations, and created the perfect classroom environment for us to learn which is what should be expected from the best professors. She had an attitude and energy that made people want to participate. She was informative, funny, kind, and a great teacher, taking into consideration how the class wanted to proceed with class material but also ultimately knew she was the professor and could make the final decision which I admired greatly. To be quite frank, the transition to online classes disappointed me the most because of this class as it was the most enjoyable I had in terms of content and environment. It also taught me a lot about how the passion and effort someone puts into something can greatly overcome anything that might be "unconventional" in a situation, expanding my own ability to reflect on my views of myself and others.  |
| 14      | This class is/was a valuable learning experience in more ways than one. That being said, I hope I can do better in the home stretch!  |
| 15      | N/A   |
| 16      | <Unanswered>  |
| 17      | Incredible Professor, impressive, dedicated, personable, encouraging and more. One of the best I've ever had!   |
| 18      | I really enjoyed your class and learned a lot. I also liked coming into your office hours and thought your teaching method was great. I enjoyed how the class was very interactive and we were able to ask questions whenever. Overall, it was a great experience being in your class and I would recommend you to future students as a professor because you truly care about us and want us to do our best. Just one comment I'd like to make is that I understand that you don't want to post the notes later, so students come to class and copy down the notes and I think attendance being mandatory is great. But I'd like the notes to be posted later as well because sometimes I try to copy down as fast as I can, so that I don't miss out any notes and because of that sometimes I am too busy writing stuff down and miss some interactive conceptual parts since I suck at multi tasking. I think a good way would be to take attendance at the start of class, but also post the notes later because students will still come to class and also be able to access the notes later to copy them down instead of being in a rush to copy them during class. Other than that, everything else was great and I really enjoyed being a student in your class. The weekly quizzes were great too because it forced me to be on top of my material, so thank you! |
| 19      | Thanks for a great semester, Mona! You always put a smile on my face (even over Zoom) and I'm so happy that I got to know you and learn about your experience being a blind professor.  |

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| <b>20</b> | I just want to say that it was the greatest honor to be a student in professor Minkara's class. I absolutely loved it and Biomolecular Dynamics turn out to be not that bad as they sound. I enjoyed every class we had, and every office hour I attended. I am grateful for meeting Mona and I wish this semester was a little longer!  |
| <b>21</b> | Post the full notes online, because if we missed something/wrote something incorrectly in class, then what we're studying from our notes is wrong. Especially since we don't have any other reference material. Maybe other references? Like a link to a youtube video or something in case we didn't fully understand the concept.  |
| <b>22</b> | n/a  |
| <b>23</b> | Thank You Dr. Minkara  |
| <b>24</b> | I found Professor Minkara to be a strong lecturer. My issue with the class was more around the lack of additional material. Additionally, I am a fairly quiet student and will not typically volunteer. This was a very participation heavy class at times. It often got dominated by extroverted students, which is not very fair to introverted students. Often Professor Minkara would say to "give your classmate a round of applause" for participating i.e. going up to the board etc. Although this was meant to encourage students to participate, as someone who is introverted, this made me less willing to participate as that kind of focus or attention is not something that I want. I understand that the class has to be more verbal so that there is clear communication between our understanding of the material, however, if it could be done in less of a public manner that may help to drive more quiet students to participate. |
| <b>25</b> | I think developing more practice problems would be helpful since it is such a hard topic.  |
| <b>26</b> | Professor Minkara went above and beyond in making the class feel like a welcome learning environment. Her physical limitations were exceeded by her amazing knowledge and personability.   |
| <b>27</b> | I was so impressed by her constant positive attitude and her ability to avoid frustration. She is clearly a strong woman and I am proud to have had her as a role model this semester.   |
| <b>28</b> | I was impressed by how quickly and effortlessly Professor Minkara adapted when an aspect of her teaching wasn't working. Professor Minkara seemed creative in her solutions (at one point lecturing with an airpod in to occasionally receive audio prompts), and unphased when an aspect of her teaching didn't go as planned.  |
| <b>29</b> | Thank you so much for this experience and the knowledge you have passed onto me. I greatly appreciate you and will miss you dearly as a professor!   |
| <b>30</b> | <Unanswered>   |
| <b>31</b> | I think this class lacked in practice problems. It seemed that creating and generating the material and I think it adversely affected some of the students.  |
| <b>32</b> | N/A  |
| <b>33</b> | Thank you so so much for an amazing semester!!   |
| <b>34</b> | I really hope that Mona finds more success as she moves on in her career. Every day she always amazed me with something new. She was by far one of the best professors to interact with and learn from, let alone people to be around. If there is anything I can do in the future for her in terms of recommendations, or nominations, I would always be willing. Mona does not get the credit she deserves and she has been through so much to get to where she is today. In fact I am planning a giant gift for Mona from all of our classmates because she built such a great relationship with all of us, and taught us so well. Please help Mona succeed in whatever she does she is absolutely amazing and I can not stress this enough!  |