# Response 10:

In this presentation, we learned about the masters engineering and graduate programs in general. Before diving into the depths of master’s degree, the speaker talks about himself and his career. He talks about a company that he and his friends established, and how he was a co-founder of globe biomedical as well.

After this segment, he began to dive into the depths of the choices that we will have. He starts by listing some choices we need to make: what do you want to do? Where? For what type of organization? In what industry? What career path are you interested in? How will you make a difference? Are you prepared? He also notes that software engineers can work everywhere. You don’t have to work for an engineering company.

A master’s degree usually takes 32 credits. 9 – 12 credits are full time, so it typically takes 3 to 4 semesters. Graduate students are guided by a committee of masters and PhDs. Your advisor (a committee chair) is the key person for your studies. They are a person that really pushes you to be the best you can be. Engineering is interesting in that assistantships are a thing. English majors wouldn’t get those kinds of opportunities. In some cases, assistantships pay tuition and living expenses. Could be a research or a teaching assistant opportunity. He also explains the two types of masters: the Master of Engineering or the Master of Science. The coursework for the Master of Engineering is 26 – 29 credits with a 3 – 6 credit projects while the master or science is 23 credits with a 9-credit thesis. The point of the Master of Engineering is to focus on hands on problem solving, while the Master of Science are researchers. Another choice could be to continue one’s education and enter a doctoral program.

The speaker also poses the question: what would a BS graduate in ECE go to graduate school? The reasons are as follows: to master more advanced topics, to qualify for industry jobs in research, to move on into academia, to gain higher pay, or to broaden or change technical specialty. The speaker then offers links and information on the graduate programs. The speaker then had a lengthy question and answer session and even provided his contact information for the viewers.

# Response 9:

In this presentation, the speaker began by talking about working with this small company called Covestro. People told her to go to silicone valley, but she really was happy and glad that she made the decision to stay with them. Covestro was a material supplier and investor for a lightweight solar airplane team. She applied to be on the ground team for the plane and got the job. She basically jumped on a plane and went to Hawaii right out of college to work on this project. It was an opportunity of a lifetime for her and she was ready to learn a ton and grow. She traveled across the US to Spain and all across Europe. The hard thing was that she was 23 years old when the project finished. She wasn’t ready to realize that her career as an engineer was at it’s peak.

Her company wanted to consider changing materials for accommodating self-driving automatic vehicles. There were moments where she was reflecting on how she used to appreciate equations and black and white. She wasn’t doing that anymore. It became ambiguous solution. “Just coming up with the best solution possible.” She worked to find ways to show why materials matter for self-driving car. If a vehicle has more people getting in and out of the backseat. What are the new use cases for the future? She loves finding the line between two things that people think could never exist.

She then attended graduate school. She learned about machine learning Ai ext. And how businesses should consider incorporating it into their structure. She is now working with JPMorgan Chase and Co to figure out where they can gather data and push machine learning within the company. To connect back to problem solving, she explains that a lot of what they are doing is considering what is the most efficient to solve a problem. Not using machine learning to use a buzz word but to save money, be more customer focused and so on.

The thing she is most excited to talk to us about is about the sophomore year in college. She began to feel like the ECE department was her home. She was a member of a design team. “Don’t let others limit your capacity.” She continues to give advice and help us all position ourselves for the right opportunities. She also speaks on the importance of showing up and using your voice.

# Response 8:

This presentation was done by Amit and Kim Puri. They focused on teaching about their journey growing up in India and transition to going to Tech and led them where they are today. Amit states that “It’s not magical but its hopefully something that will teach you something”. Amit then dives into his story and talked about the town he lived in “the second most polluted city” he had asthma and so his family thought sending him for America for the summer would be a good idea. Coming to America for the first time from the movies the food, and the culture in general was mesmerizing to him. From those trips over the summer, he decided he wanted to come to the United States for college. He eventually got a degree in Computer and Electrical Engineering. He spent a lot of time focusing on learning the culture and how to converse with folks outside of schoolwork.

He eventually joined the professional world and spent time in classes that taught program management, corporate finance and so on so that he could take on the profit and loss responsibility. “its one of the toughest positions in a company”. He had been a part of a company called ad tech and eventually moved forward to agelcon. He realized that building a lucrative company is difficult. He spent more time in business and economical classes. While reading case studies about how leaders navigated through difficult times and used values like what your parents would teach you as a child.

Amit also talks about the importance of taking a break or mini vacations from what you are laser focused on. Its just as important as sleep and diet and exercises. Amit also talks about a few charity groups that he is on the board for that help support students in India and build an education system. There were a variety of other topics covered by Amit, but it was soon Kim’s turn to talk

She says that she and her husband are very similar and yet they are very similar. She was born in Massachusetts and moved to Virginia in high school. She gained a desire to learn about things and take them apart even if you couldn’t put them back together. She also talks about how her family is very patriotic. She was very new to computers. You had to buy a computer from Tech and buy an ethernet card and install it. She had to rely on friends to help her get the computer up and running. It was an overwhelming situation for her. She took advantage of Minority Engineering Services to get free tutoring and support. It was her safe haven to figure out what was going on in her classes. The story continues into her professional career as well as with some tips learned from the choices she had made.

# Response 7:

The first speaker spoke about the MEEP Program. It is a multi-disciplinary program. He spoke first upon who uses electromagnetics. This list included nature, power systems, entertainment, and wireless communications. He also spoke about antennas and their importance. He then spoke about an engineering course called ENGR 3984 which focuses on the materials and structures for applied electromagnetics. “This is where the antennas and electromagnetics come into play”. He also spoke of an undergraduate research project opportunities related to the same topic and how students joining these projects will have a lot of advantages to work for some of the companies listed on the slide including NASA, Boeing, Lockheed Martin, and more.

The next speaker spoke about using the ECE major and secondary focus to prepare oneself for their career. He did mention that his main focus of the presentation is the secondary focus, but he will integrate some broader topics into the presentations. He starts by explaining the new program structure. There are ways to focus with more hardware, more software, or a mixture of the two. A student can even make their own. Within the junior year students should select their major. Virginia tech is a little weird in that every ECE graduate will have a degree, a major within that degree, and a secondary focus. Both the degree and the major will show up on one’s diploma and on the transcript. “Your major is your depth of knowledge within your major”.

The speaker talked in depth about the different majors and then delved into an explanation of the secondary focuses. He also mentions that the secondary focus isn’t specifically on a diploma, but one should make a compelling story about how that experience better prepares you for possible future careers. “You need to come up with a narrative about your choices and what you want to do when you graduate.” For the individualized secondary focus, it is required to write a narrative about what you intend to use the secondary focus for in the future. After speaking about the facts, the speaker jumped into his opinion about everything he had just covered. His main point was to consider flexibility “Its not just EE or CPE its ECE.” Lastly the speaker talked about some opportunities and concluded with re-iterating the importance of thinking about what you want to do five years after graduation and thinking of oneself as an ECE student instead of just an EE or CPE.

Overall, I learned a lot about secondary focuses and how I should consider what choices will suit me and the future I want to pursue.

# Response 6:

This presentation was about presenting and all of the preparation that comes with it.

The speaker started by explaining the importance of “starting strong”. Having an attention getter in a speech is critical to keeping your audience engaged. Just like when writing a paper, or story, there needs to be some sort of introduction that engages the audience and grabs their attention. This could be a question, as long as it is phrased in just the right way or it could be a quick story that relates to the content of the speech. He also talked about the importance of including the relevance of the topic, your own credibility, and a preview of the speech as part of your introduction along with your attention getter.

The speaker also talked about how to outline the main points of one’s speech. Organization is key and including citations when you reference other’s material are also critical. The speaker also talked about how to format an oral citation. The more citations the better. In a longer speech four or more is typical. He also outlined how the conclusion should be formatted and what it should include. The most important thing to include was a recap and a memorable end.

After talking about the general structure of a speech, the speaker started talking about “the rules of power points” starting with rule one: “the power point should help the audience”. PowerPoints are not meant to be read from, and the speaker should have most of the speech memorized. Only key points or other small tibits of interest should be included on the slides. The less text the better. Including graphics like charts, Images, or diagrams are useful to include. Clip art should be avoided, however. Spacer slides should also be used when the there is no slide to go with a specific section of a presentation.

The speaker also outlined how to go about a group presentation or a zoom-based presentation, as the two present unique struggles, including how to present to and how to engage your audience. A particular tip he had for zoom presentations was “eye contact”. He stated that one should focus their attention on the camera so that to the viewer it would appear as though you are looking at them.

Lastly the speaker talked about how to prepare. Taking multiple hours to memorize a speech is usually not possible, so the speaker recommended being ready after practicing six or seven times. The first and second time should be spent looking over the outline and practicing by oneself. Then one should record the speech on their phone, focusing on the voice. A live practice is the final time. In a normal speech environment this would involve grabbing a few friends and presenting live, but for a zoom-based presentation, it may be better to have your audience join you for a “live run” via zoom. This lets you practice your gestures and see how they might translate in a digital environment.

Overall, I learned a lot about public speaking and how to set up presentations that compliment them. In particular I learned a lot about the nuances or presenting in a digital format instead of an in-person format.

# Response 5:

* “share learnings since she graduated” – If I could sit on your seat, what would she have done different
* Introduce us to the world of startups
* “In a privileged position to make an impact on the world”
* World of finance and investing when went to business school
* 10 years after she was an engineer she got exposed to startups
* “there is a scarcity of engineers in the US”
* 3 lessons she has: take risks early. Join a start up company. Part of a scaling start up means you wear multiple hats. If you pick the right scaling start up it will be infinite improvement.
* Try to find asymmetric opportunities. Where can I jump 10x or 5x in my career. Which offer gives disproportionate learning ops. Large corporations tend to be linear.
* Dream big growth mindset. (25 median age of founders they work with. ) the youngest 17. Its easier to take an engineer founder and make them into a business founder.
* Very successful companies typically have engineers leading them.
* Only measure yourself by learning.
* What is the word of a start up: your either a founder or not a founder
* Everything can be learned
* A founder discovers an idea and solves it. Build a company around it. Find a problem that you have and try to solve it. See if many people have that same problem, then that is your company.
* Need cofounders and a set of engineers. Cofounder break ups why a lot of them fail
* Try to find a start up to intern at. (Yc work at a start up)
* We teach the hackers how to start a company. Get what you need to start pretty easily
* “we can never really tell anything in 2 minutes” as engineers lol
* Why wouldn’t an engineer consider a start up job?
* 5 year old company vs 30 years
* Your education is your security
* No time for coaching and mentoring in start ups
* Easier to get a start up job.
* Go to hacker news for tech founders
* 5-7 start ups to pester

For this video, the speaker was actually a Virginia Tech graduate, and she talked about her journey after graduation. She had two main goals: to share what she learned, and to introduce us to the world of startups.

First the speaker talked about her education, and how she went from a VT engineering graduate to a Business School. Then, she explained the three lessons she learned throughout her career beyond college. First, take risks early. She stated that she wished she had joined a scaling start up company because the growth of these companies is not linear. She also mentioned finding asymmetric opportunities, which are similar but mainly focuses on disproportionate learning opportunities. These are opportunities where you learn a lot more than what you were hired to do. In a large-scale company, you are a software engineer, but in a scaling start up your might be a team manager, a communications or security expert along with a variety of other roles in addition to what you were hired to do. The last recommendation was to think big. She explained that most of the founders she worked with are around 25 years old, and the youngest was 17.

After talking about these lessons, the speaker transitioned to explaining what a start up is and how to get involved with one. She talked about how her company reviews start up ideas and works with them to help launch their projects. Very successful companies typically have engineers leading them as a founder, so we are in an optimal position. She explained the importance of finding a solution to a problem that you are experiencing, then trying to see if other people need that solution too, rather than trying to see what people want. She also said “as engineers, we can never really tell anything in two minutes” but it is important to solidify a two-minute pitch of your start up in order to convince companies to invest in your start up.

There was a lot to learn, and she even mentioned considering working at a start up as an intern to build experience. After her main presentation was complete, a lot of time was spent answering questions until the end of the session.

# Response 4:

This video focused on success in the digital classroom and was sponsored by the Student Success Center. The speaker talked about tactics and strategies on how to connect and overcome the challenges of digital coursework.

The speaker began by interacting with the audience and had them compare the similarities and differences between in person and digital learning. The main point made during this portion of the presentation was to showcase that the course material is the same but the way it is presented has changed.

After this, the speaker began to give helpful tips and tricks for digital learning. The first part that she covered was the requirements of digital learning. The requirements she listed were as follows: know how to seek help, be able to prevail over challenges, be capable of handling technical issues, internal motivation, and personal responsibility. She talked about each in more depth, but the overall message was that digital learning is a lot more self-motivated and requires a strong internal voice to prevent procrastination.

She then gave an overview of recommendations to ensure that you preform well in the online courses. The first was to find or create a good study environment. This can be achieved by turning off one’s phone, ensure the lighting is good, have a peaceful/ quiet study environment and one should consider ergonomics. Another tip that she had was to build the course into your schedule. A recommendation was to use a calendar and fill it out with your schedule and to schedule study times. She emphasized the importance of reading the syllabus because it is “a contract between you and your professor”. She explained that it contains a lot of important information like the grading policies and late polices. She also covered some brief test taking strategies including a recommendation to do a self-assessment. Another note that she covered was the importance of integrity. Things like checking to ensure that you don’t plagiarize and ensure you uphold academic integrity.

Study habits were covered as an additional segment. One point was to have shorter study sections as they improve memory and are more productive. Two hours at a time is the recommended amount. Being familiar with the test format is critical. This will affect how you study. Is the test open note, what kinds of questions will they use? Don’t make assumptions about the format or type. The information is typically stored in the syllabus.

Overall, I learned a lot about how to study, how to enhance my digital learning set up, and some really cool techniques that improve one’s digital learning performance.

# Response 3:

This video was focused on learning more about Texas Instruments and the kinds of roles that are a part of their company, as well as a discussion section that was dedicated to answering student and self-posed questions.

The presentation began with a smaller first presentation from ECE ambassadors. The speaker talked quickly about the organization, including what they do and how to get involved. The main thing the speaker brought up was influencing and interacting with potential ECE students. The speaker mentioned that each member is able to put in as much time as they want to. There is no strict time requirements, though ideally each member would commit six hours.

After that brief presentation, the presentation by Texas Instruments began. The presentation began with the statement “who are we beyond the calculators?” The main presenter then explained that TI is one of the leaders in the industry for developing semiconductor electronics as well as embedded devices. I was excited by this because I personally have an interest in embedded devices. They also explained that the goal of the company is to develop safer, smarter, and more efficient technologies.

Next the presenters explained the different degree types of ad roles that are offered by TI. The list had a plethora of different types of engineers that were hired, but the bulk were computer engineers and electrical engineers. In this section they also took a brief moment to touch on what they look for in potential interns and how they approached internships during covid.

After this, a variety of TI employees each talked about what they do within their roles and how all of their roles are interconnected. The roles that were covered included system engineers, product engineers, testing and validation engineers, application engineers and even technical sales and field applications. They spoke about what they did in their roles and how they approached ethical dilemmas.

At the end of the presentation, each of the speakers answered a panel discussion question, and then they focused on answering the questions of the audience. Overall, a lot was learned about the different jobs offered to engineers, what companies look for in a potential candidate, and a lot about what TI values. I learned a lot during the video, and it was interesting to see all of the different roles these speakers were in even though they all had similar majors in college. It was also fun to hear about how Engineers could be hired into more sales and management positions because of the problem-solving skill sets they have.

# Response 2:

This video expanded our understanding of resumes, interviews, and how to sell ourselves when applying to internships, research opportunities, and overall navigating the hiring landscape.

The presentation was given by Heidi Gilbert and throughout the presentation she mentioned that students could feel free to email her for advice or to set up a meeting. After a brief introduction she jumped into her first topic: tailoring one’s resume.

Miss Gilbert spent a lot of time covering resumes and how to format them. One area that was of particular interest was when she spoke about the three audiences that a resume needs to appeal to: the computer, the human resources team, and the engineer/ hiring manager. She explained the importance of key words and how resumes are fed into a ATS computer program and scanned. Many candidates can be filtered out because they haven’t listed the specific key words that the program is looking for. Miss Gilbert also talked a lot about buzz words and soft skills. Both are important to include because they are checked by the computer but also by the human resources team. “Six seconds are initially spent viewing a resume.” If some of the buzz words are not easily found within those six seconds by the human resources team, then the resume could be trashed.

Beyond resumes, Miss Gilbert also spoke about Networking, or as she liked to call it “making connections.” She said a lot of it can be done right now because we are in an optimal position. “Ask the people in the fields your interested in questions.” She even had her live audience develop a list of possible questions to ask recruiters or engineers to facilitate a human connection and to help with networking.

At this point Miss Gilbert was close to running out of time and so she spent the last bit of her presentation answering the questions of the live audience and covering how students can navigate virtual recruitment. She specifically gave tips for a 30 second introduction. The main point she made during this part of the presentation was “don’t be profound, don’t over think it.”. With this advice and a few more answered questions, Miss Gilbert concluded her presentation.

Overall, I learned a lot about how to format my resume, how to build connections with potential employers, and how to sell myself to these companies. It was a very informative presentation.

# Response 1:

This introductory video was meant to increase our awareness about some of the basic requirements and concepts of the course, in addition to educating the students watching about some of the resources and clubs that are available to them.

The presentation began with an outline of the course in addition to tips to succeed. One of the larger points that was made was that a grade of C or higher is required to advance beyond this class. In addition, meeting the basic requirements of the projects will ensure a grade of a B+ or lower. This ties into some of what was mentioned during the first lecture of this course. There are infinite solutions to the given projects, however some are more streamlined or "linear" than others. Another point that was made during this section of the presentation was to get on Piazza and set up a professional profile. “Companies want you because you are a ECE student at Virginia Tech.” This was a recommendation from one of the ECE advisors. The reason for this recommendation was to assist students in finding internships, job opportunities, and to network with other individuals.

After the section of the presentation that was dedicated to general advise and course guidance was completed, the presenters had representatives from three organizations speak. The first organization to speak was the Institute of Electrical and Electronic Engineers (IEEE). The speaker outlined who the organization represented, what kinds of events they hold as well as contact information for their club. The second speaker was also related to IEEE and spoke about a chapter of the international honor society of the Institute of Electrical and Electronic Engineers. This speaker also took time to talk about RockSatX, which is an undergraduate project team that builds projects related to radio frequency and communication. The speaker concluded with the recommendation to participate in some sort of team project, research, or a well-documented individual project. This led into the final speaker’s presentation. The final group to speak was the Amp Lab. Two senior students gave a tour of the lab and explained how to gain access to the space as well as some of the projects previous students have completed.

At the end of the presentation, the first speaker, Professor Baumann gave a few answers to questions from his live audience and gave some closing statements. The video then concluded. Overall I learned more about the outline of the course, how to do well, and I also learned more about some great opportunities on campus.