

Michael Eure Show – Episode 58: Discussing STEM

INTRODUCTION: Hello, this is Michael Eure, and I'd like to invite you to the Michael Eure Show, featuring student hosts and very special guests talking about a variety of interesting topics. You can find us on the Eagle Stream YouTube channel.

MICHAEL EURE: Good evening, everybody, and welcome to the Michael Eure Show. Today, we're gonna be focusing on engineering and technology. But I appreciate the guests we have. We have Rolando Riggsbee, who's a graduate of North Carolina A&T. We have Doctor Garey Fox, who is a department head for Biological and Agricultural Engineering at N.C. State. David Kwan is a graduate of Wake Tech, and he was an engineering, Associate in Engineering, and he transferred to N.C. State. You can hear more about them.

Then, I have my great student co-hosts. Taj Hewitt is the main host, and Damien Johnson is a brand new student, so he's training. And then there's another gentleman named Ben Saucedo, though, who's gonna come and take my place. And I'm going to be backstage, and I'll be communicating with all of you. But, for the audience, I want them to see y'all and talk to the people that really have the answers. I do it all the time.

So, Jerry, are we ready to get with the video and slides, websites? OK, if not, I'm going to ask Jerry if you can bring me back. OK, all right. So, these are the colleges and departments, this is North Carolina A&T's website, and he's going to put this in the chat. And it has the College of Agriculture and Environmental Sciences. It has the College of Engineering. It has the College of Science and Technology. So, you just wanna put that into the chat, and people can go in and research under the College of Science and Technology to find out what Rolando Riggsby's major was.

OK. So, we wanna kind of bring up now the N.C. State Biological and Agricultural Engineering Department. And we're gonna, also you can scroll a little bit, and you're gonna learn more about this from Doctor Fox as we go on, but that's a very unique program. And I think that, that Biological and Agricultural Engineering Technology is also excellent. So, we want to put that in the chat now.

And then, finally, if you have the Care Center, or do we want to do, OK, Career Services, let's do that. So, scroll down, and Career Services is the office that is available to students throughout the semester and from the very first day of class, even when you get accepted to Wake Tech. And they will help you with your internships and part-time jobs and mapping out your career. And they are the office

on our campus that helps students determine the major if they're confused, although Advising does it also. But that is the primary function of Career Services. So, we wanna go to the next, all right, so this is the Care Center, and we're gonna let you check a video out. And when this is over, I'll be gone, and Ben will be in. And Jerry, I mean, not Jerry, Taj, make sure he, he's, that he's introduced as well. Thank you.

[Care Center promotional video plays]

TAJ HEWITT: OK. Once again, welcome, everyone, to this episode of the Michael Eure Show. A special welcome to our viewers at home, and a very special welcome to the guests that are joining us today. My name is Taj Hewitt, a second-year student at Wake Tech, hoping to transfer to either N.C. State or A&T. And let's have an introduction from everyone. So, we can start with David.

DAVID KWAN: Yes. Hey, my name is David Kwan. I am a former, former student from Wake Tech. I graduated from Wake Tech with a bachelor, or an Associate in Science and Engineering, and then I did my Bachelor's in Science in aerospace engineering at N.C. State. Currently, I am doing my master's in the same area, aerospace engineering at N.C. State.

HEWITT: All right. And then Ben?

BENJAMIN SAUCEDO: Hi, everyone. Good evening. My name is Ben Saucedo, and I am a proud graduate of Wake Tech. I actually just transferred to Campbell University this semester, and I am pursuing a bachelor's in mathematics.

HEWITT: That's excellent. And then we have Damien, my fellow co-host.

DAMIEN JOHNSON: Good evening, everyone. My name is Damien. I'm a first-year student at Wake Tech who is studying for the Associate in Engineering. Right now, I plan on moving to N.C. State and transferring there to study aerospace engineering, much like David Kwan here. Thank you.

HEWITT: All right. And then, Mr. Rolando?

ROLANDO RIGGSBEE: Hi, everyone. Rolando Rigsby. I'm proud graduate of North Carolina A&T State University, Class of 1998, currently working in IT. I work for Cisco Systems.

HEWITT: OK. And then, last but certainly not least, Doctor Garey Fox.

GAREY FOX: Good evening, everybody. Garey Fox. I'm a professor and department head in the Department of Biological and Agricultural Engineering here at N.C. State. A little bit of a not-as-well-known engineering program, but we have some exciting engineering pathways in both biological engineering and biological and ag engineering technology.

HEWITT: All right. So, we'll jump straight in, and first things first, David and Ben, I know that both of you attended Wake Tech and graduated Wake Tech and now have transferred out to Campbell University and David at N.C. State. So, I want to ask both of you, why did you choose the particular major that you pursued?

SAUCEDO: All right. I guess I can go first. So, I actually took a little bit longer to decide what I wanted to pursue. I actually started at Wake Tech back in 2019, when I moved here to North Carolina from California. And by the time I completed my associate degree two years later, I was still undecided with what I wanted to pursue. So, I decided to dip my toes in the field of analytics and pick up the Business Intelligence Certificate, adding a third year to my time at Wake Tech. And after that, after I completed that, I really realized I like math a lot more than any of my other subjects. And that's why I decided to go down the path and pursue a bachelor's degree in mathematics.

HEWITT: So, did you know this before coming to Wake Tech? Or was it being at Wake Tech that made you decide, "OK, yes, this is exactly what I want to do"?

SAUCEDO: It was during my time at Wake Tech. I came in thinking I was gonna pursue business, and then I had a time where I was bouncing around between different majors. So, it was really during my time here at Wake Tech where I was able to solidify what I wanted to pursue.

HEWITT: And then, David, same thing to you. Why did you choose, you know, I mean, it's essentially rocket science that you're doing, right? I mean, it's hard-core, so explain what made you choose it.

KWAN: Yeah. So, I was in a similar situation as Ben for the first couple semesters at Wake Tech. I wasn't sure which area I wanted to go into. Now I knew that I wanted to do engineering because, you know, I love science, I love math. But I didn't know which specific area of engineering I wanted to go into. Now, Wake Tech has a program for Career Services for which I've been to multiple times. I talked to people in Career Services. They helped me know, know the different programs, what are the

cons, the pros. And I decided to pick aerospace engineering because it is a particular field I'm very interested in, and it's an area that I'm passionate in since I was very little, you know. I wanted to know how planes work, fly, how, how it works. And it helps especially since I live very near Fort Bragg right here, and you could, you can actually sometimes see planes flying overhead. So, that helps a lot, too, I guess.

HEWITT: Yeah. That's excellent. And so, I mean, being at Wake Tech, were these, were the courses you, you were doing hard? You know, were they difficult, and would you say that using Career Services or maybe even the ILC, things like this, would you say that those significantly helped you and made you say, "OK, I can do this," made you really believe in yourself, would you?

KWAN: Well, as far as were the courses hard, for me, I wasn't, like, a traditional student per se, because most of the students, they graduate from high school, they might wait a year or so before they go to a community college or four-year university. For me, it was different. After I graduated from high school, I actually went into the workforce for, for quite a while, for almost, I will say, 10 years before I came back to Wake Tech Community College. And then I decided to take classes and pursue my next step up in my career, I guess you would say. Was it hard? It was a little bit challenging at first because I had to recall some of the stuff that I hadn't used for a long time since I hadn't been to school for a while. But, you know, I took it in stride. You know, I worked hard on it, and, you know, if I can do it, I mean, anyone can do it.

As far as how Wake Tech helped me, Wake Tech has a lot of resources for people, especially those who are non-traditional students that can help you with that. If you need help in certain topics, there is the ILC. There's also, if you are not sure, like I mentioned, there's the Career Services that can help you decide. And you don't have to decide which particular field you want to go to right away. You can, it can be a process, too, sometimes. Yeah, and, but eventually, you know, you'll get there.

HEWITT: Yeah. Yeah, agreed. Yeah. And so, now I'm gonna hand over to Damien, and he is going to pose another question to both of you again, Ben and David. So, Damien?

JOHNSON: Yes, of course. Thank you. Thank you, Taj. Thank you, David and Benjamin. You guys gave us some really great insight on what your experiences were like at Wake Tech. But I do have to ask, how was, like, how has your journey been at Wake Tech and these four-year transfer institutions that you guys are going

to now in terms of research and work experiences? How has Wake Tech helped, helped you guys get there? And we can start off with Benjamin again.

SAUCEDO: All right. So, honestly, it really did take a while for me to just become more comfortable with myself academically. I came in with a, from a background where I was just kind of like forced, not forced, but I always knew school was important, but I personally didn't think it was that important. And it wasn't until I started here at Wake Tech, where I was able to just kind of get that freshly and start new and take everything, you know, for granted in a good way and take it as seriously as I could. And I don't know, I just, just, everything just kind of built up gradually to the way it was.

Relating to research and things like that, I actually was able to do the START internship last semester, and I worked with Taj, actually, and it gave me an even better idea of what research really means and how I can see myself being a minority in the field of STEM. And that really was something I never anticipated to experience at a community college. So, that was definitely a very nice eye-opening experience that I had here at Wake Tech. And overall, I would just say, just, just really make sure you put yourself out there and just try to make sure you work on skills to, you know, that you're gonna use in the workforce and just to make yourself more confident going forward. Because you gotta really just fight for yourself and prove to employers that you have what it takes to get an internship or a job or anything like that.

So, that's just kind of my two cents. Just make sure you, as you gradually progress, just make sure you keep on, you know, just building on top and trying to keep aiming for the stars.

JOHNSON: Thank you. I completely, honestly, agree with that. It's all about those small wins that you get throughout the years, throughout the months and the semesters that you're there. If you're making progress and building upon that, then you're bound to be heading in the right direction.

I heard you mention something about the START program. Can you talk a little bit about that?

SAUCEDO: Absolutely. So, START is actually an acronym which stands for ST Academic Research and Training. And this is actually an NSF-sponsored grant that was given to Wake Tech. And don't quote me on this, but I think I was part of one of the first few semesters where they actually had implemented it. I just remember that,

when I did it, it was relatively new, and this was supposed to be a program to give students of color or who come from underrepresented backgrounds a chance to, you know, get a taste of what it's like to be in STEM. And, you know, as the name STEM entails, they have different categories and avenues that students could have applied for, and I decided to go for the math-based of internships they had available. And in that internship, I was actually able to, alongside with Taj, we were able to go into the U.S. Census website and gather data relating to Latinos in the United States and North Carolina. And we were just comparing different aspects and see what changes might have occurred from 2010 to 2020. And I think one of the bigger aspects that we did focus on was just looking at Latino education levels, and it was very eye-opening, not only as a Latino myself to see just kind of where the community as a whole stands, but just to see, you know, changes in different aspects of the community.

JOHNSON: Wow. Thank you so much. That was great, Benjamin. David, I kind of have the same question for you. How has your journey been at Wake Tech and, you know, the experiences that you're getting at your transfer institution in terms of, like, research, work experience, what led you there, how is it going, things like that?

KWAN: As far as Wake Tech, that has been a very good experience, and it did prepare me a lot for what I was going to do as far as N.C. State. A lot of, if you look at a lot of courses that Wake Tech offers for engineering, a lot of it lines up with what N.C. State is going to offer, at a better price, actually. So, if you found the study plan for engineering and finish that for associate at Wake Tech, it will lead straight to N.C. State. There's a straight transfer program. I don't know if they still do that. When I did my associate at Wake Tech, I transferred all the classes directly into N.C. State with no issues.

After you transfer into N.C. State, for a lot of people, it's going to be some major changes, because community college is a lot different than four-year institutions. You are going to be working a lot harder, but, at the same time, if you apply yourself and do your work and all that, you're going to come up real good, on top of everything. There are, as for a couple courses, when that is going to be different than Wake Tech, and I think those are requirements that N.C. State wants you to take over there. But, I mean, you won't have any issues with those.

As far as my experience at State, I transferred with a lot of students that came from Wake Tech, and having the support of students that went through the same experience at Wake Tech, it did help a lot, too. You do make a lot of friends, more friends when after you transfer, and having that support also helps you a lot as you

go through your program. There will be a lot of a opportunity as far as research. You were, during the very first semester, maybe you won't be able to do that because, like I said, there are some classes that you have to take that is not offered at Wake Tech. But afterwards, you can get together with professor in an area that you're interested in and ask about research opportunities and all that. And the professor will tell you what, what you should do if you want to get into research with them and how your plan should be as far as your academic studies.

JOHNSON: Thank you so much, Mr. Kwan. I'm gonna hand it back over to Taj so he can ask the next question. Go ahead.

HEWITT: All right. So, thank you both, Ben and David. I really appreciate you guys, and it's very important to get real-life examples from both of you, especially for any Wake Tech students that may be watching or even students at a four-year, four-year institution that may be watching. You know, it's very crucial of you both.

But now, we will move on straight, and we'll move on to Mr. Rolando. So, Mr. Rolando, you have a Bachelor's of Science in electronics and computer technology from A&T. Is that correct?

RIGGSBEE: Correct. Electronic technology, yeah.

HEWITT: Electronic technology. So, I just want to ask you, can you kind of give us a rundown and explain your experiences as a student and maybe list a couple of strategies that helped you to achieve this level and actually complete your bachelor's?

RIGGSBEE: No, OK, no problem. So, I would say first of all, in engineering, if you know engineering, math, science, if you don't love those two subjects, then engineering may not be for you. Right? And so, you have to develop that passion for those. And I knew, you know, growing up, I had a passion for it. So, definitely we play the key part. And prior to attending North Carolina A&T, I actually was a physics major at North Carolina Central. So, North Carolina Central didn't have engineering, so I, I had, they had a program where you transferred to Georgia Tech or N.C. State, and I chose North Carolina A&T. So, when I transferred North Carolina A&T, I entered the electronics technology program. And definitely, you know, my passion for math and science carried over. A lot of physics, chemistry, calculus classes, so definitely just be ready for that.

And I would say, too, you know, just studying and understanding. My key at North

Carolina A&T, because I actually tutored the School of Technology, is understand the concept when it comes to math and then, you know science, but mainly math. If you understand the concept, then you can do any math problem in that particular realm. Right? But if you don't understand the concept and you just learn how to solve a problem, and I'm sure Ben can attest to this, then you don't know how to do it. So, what I would do is practice on my own, and when I mentor other students, is let me, if I could solve one problem, let me try to solve another problem that's equivalent to that one that I didn't have to answer to to make sure I understood the concept.

HEWITT: Yeah. Ben and David, they both made a great point talking about, it's about applying yourself. You know, it's all down to how can you use the information that you learned and then build upon it.

But I'm gonna have over back to Damien, and he's gonna pose another question to you, Mr. Rolando.

RIGGSBEE: OK.

JOHNSON: Mr. Rolando, I actually I have a sort of, yeah, similar question to that. You say that it, obviously, it takes a lot of application, and you have to understand the concepts in order to be good at the whole engineering aspect of it. Do you feel like sometimes you ever have to go back to the basics, though, even when you did understand a concept? Did you ever feel like the mathematics or the physics may have been so complex that sometimes you have to go back to the basics? Is that some advice that you might give to other people to always go back to their roots or anything like that?

RIGGSBEE: Yeah. Good question, Damien. I would say definitely go back to your roots. Understand the basics. Sometimes, you have to revert back, but when you're building in math, it's like building blocks. Right? You get the foundation, understand the foundation as you progress throughout your college career. You're gonna continue to build upon what you learned previously, so don't ever forget. And if you have to go back, it's fine. Right? Because you, you will realize that going back will help you solve the next problem, because you don't think it's gonna help you, but it will. And it's, it's definitely like building blocks, and that's the simplest way I can, you know, put it for anyone.

JOHNSON: No, I mean, yeah. I com, I completely agree with that. I think it is important to always go back. Kind of building on top of that, do you feel like you might have been prepared by the university to enter the workforce at any time by,

you know, perhaps either going back, or with the classes that you were taking or the professors that you were with, if you ever didn't understand something, did you feel like, eventually, you would end up getting prepared for the workforce while you were in university?

RIGGSBEE: Yes. I would say, you know, attending North Carolina A&T, that curriculum with electronics technology, it was a lot of hands-on and understanding concepts. And I always tell people, when you enter the engineering field, you always, it teaches you to think a different way than average students. So, you think outside the realm of most people. Right? So, that applies to me going into, you know, my career because, actually, I was a magna cum laude graduate from A&T, and I was two-tenths from summa cum laude, which ate me up. I said, "Man, I want this summa cum laude." But I was proud of myself because, you know, it was always instilled of me academics first, so definitely it applies. You don't think those things will come back, but they will, because, now that I'm in IT, I've been working.

I work at Cisco Systems, as I mentioned earlier. Been there since '04. Started out as a contractor, and that carried over to my career, the work ethic, you know, continue to grow, continue to learn. Because you develop that as you grow as a college student, and you may not think it's gonna come back or it's gonna play a key part in your career, but it will, definitely.

JOHNSON: Yeah. I, like I said, 100 percent agree. I think all of those do play a key part. It's important that you have that work ethic and that strive to keep going and that passion for what you're doing. Would, what type advice would you give to anybody looking to do work in your field?

RIGGSBEE: What I would say is definitely focus on the skills needed in school and also leverage some of the programs. I shared with Michael earlier this week, we have a, I was introduced to a program, 110. It's a program to help individuals get into the IT field without having a four-year degree. I actually mentor three cohorts in that program at Cisco now, and they were hired, and they're being trained now. So, definitely leverage, you know, LinkedIn, social media. Build your network. If, if I can't say anything more important, it's building your network and leveraging that network so you can make those connections because, I get teased about being the "mayor of Cisco" sometimes at RTP because I know so many people. Because I believe in building a network and growing my network and, when I need to reach back, I have those resources available to me. And also, people like myself, I'm always willing to help people. You know, I'm always willing to reach back, because our motto at Cisco is "Bringing somebody to the table." Right? Bring somebody else to the table.

JOHNSON: Well, thank you so much, Mr. Rolando. That was great advice. I hope everybody understands and takes it. I'm gonna hand it back to Taj. So, Taj, you can go ahead.

HEWITT: So, yeah, I really appreciate that Mr. Rolando is giving students real real-life advice, you know, right here, right now. And we're gonna move straight along to Doctor Garey Fox. So, Doctor Garey Fox, I know that you are the department head of Biological and Agricultural Engineering at N.C. State as well as a professor, and I'm sure that didn't happen overnight. So, could you tell us a little bit about your journey from being a student and coming up through the ranks all the way to becoming the department head?

FOX: Yeah, absolutely. Such a pleasure to be here. And, wow, what, what great advice that's been already shared tonight, and it's fantastic. Yeah, you know, I started, I grew up on a farm, but I was not a farm kid. I grew up in Texas. My brothers were definitely farm kids, and I went to, I did a lot of stuff in high school with FFA on the ag side, although not, I wasn't really involved with the animal livestock side. I was more in public speaking, and, and I really was really good at math and science. I was a first-generation college student and went from a high school of, graduating class of 35 to, you know, Texas A&M University, which had 40,000 students. And for me, that was a big transition. Right? It's a big transition, you know, going even from a community college to a place like N.C. State. For me, I was lucky enough, I was interested in kind of the environment. I was interested in doing engineering, but really being outside, working with my hands, working with machinery, things like that. And I found biological and ag engineering, and it was honestly, you know, sometimes things are just meant to happen a certain way. And I think I was just directed that, you know, in that, in that path.

Our programs tend to be smaller programs. You know, we have an engineering degree, also an engineering technology degree. You can do work in agriculture. You can do work in bioenergy, carbon sequestration. You can do work in stream restoration, river restoration, low-impact development and green infrastructure. You can do all sorts of things where you start to put biology with engineering, and we really feel like, in our department, that the future of engineering is the incorporation of biology to create more of a sustainable and resilient planet. Right? Because, when you look at the grand challenges we're going to face, that we're gonna have to include some of these things. Right? And so, we're, we're a very collaborative department. We tend to be a smaller department. We're not as well known, so we have a very family atmosphere.

So, I got involved with faculty doing research. I was, research was amazing to me. You know, I was doing this work, and they were gonna pay me to do, to do research, and I loved it. Right? Just that, that, that passion for going to find new information, and so, I got involved. You know, my mom had always told me, "You need to be a teacher." I thought I was going to be a football coach. Right? And I ended up finding a path through to, you know, getting my master's degree and a Ph.D. Again, a first-generation college student, and made it all the way into a Ph.D. program and then got into, I started as a faculty member in biological and ag engineering at Oklahoma State. It's a small program, and I loved the interaction engagement with the students. And we have the same thing here at N.C. State, a small program. I know every student's name, basically, in my department. I know what they're interested in. I know where their career is going, and I can connect them. Tomorrow, we have a big career fair. We have 36 companies coming into our department to hire just our students.

And so, you know, I ended up heading off into the path of being a faculty member. I love teaching, love to continue doing research. But I wanted to make a difference at a bigger level. And a bigger level means even potentially an administration role where I can interact and engage with a lot of students.

HEWITT: Yeah. So, are there any unique experiences that students in your department might have? Because I know you said you know practically all your students' names, and so does that mean that they get, you know, more one-on-one attention or maybe some different and unique learning opportunities that someone else may not get?

FOX: Yeah. Well, as a first-generation college student that was not, had no idea what my path was gonna be, undergraduate research is really important for us. So, we actually probably hire more undergraduate students on a percentage basis in our department than any other engineering program. The other thing I would mention is we do dual advising. So, while most programs, and I can say this because my son's a mechanical engineering student here at State, he gets advised online through our classroom system and never has to go be with anybody. Our students have to meet with two faculty members: a curriculum advisor and a career advisor. We wanna make sure we know how to connect you up and build that network. Right? What Mr. Riggsbee was saying, you've got to build that network, and we use our faculty to do that.

Depending on what area you're interested in, we have competition teams. I'm a very competitive person. I told you I thought about going to be a football coach. So, we have a team that actually builds a quarter-scale tractor, and they go to an international competition where they pull this tractor and have to do maneuverability, durability courses. We have a fountain wars competition team that they build a fountain to do some kind of technical task with just water power. We have a new bioprocessing competition, just like a "Shark Tank" competition, where they have to propose a new bioproduct and then pitch it like they've created a new company. Right? And so, we've got all of these competitions that our students can be involved there.

And then, I did not study abroad as a student, but I would highly recommend Study Abroad opportunities. We actually have one that is on Roman engineering that goes to Spain and Italy, and it's gonna go to France in the future. I think that international component is really important. Again, it's about understanding different cultures, different backgrounds. You know, it's very important that we have this diversity of thought when we put teams together, an engineering team that we can find the best solution that's possible, and that's what, that's what I love about this department. It's such a, it is what I call a, you know, a, a big-school resource at N.C. State, but it's a family atmosphere. People, people, you know, students, when they graduate from our department, you know, they kind of get choked up because they're leaving our department. They're leaving home, and it becomes home for them. So, we're, we're very excited about our, our program here at N.C. State.

HEWITT: Wow. Yeah, and I'm, I'm sure your department will get a lot more popularity after this. I mean, the things you've been saying are incredible. I mean, who wouldn't want to be a part of that department. And I mean even me personally. That's actually the exact major that I'm trying to go into. So, you know, hopefully, you know, fingers crossed.

FOX: Yeah. Absolutely.

HEWITT: Yeah. As time is going, right now, we plan to go to a break. So, Jerry, if you could. But if we are having technical difficulties, we don't have to go to a break. Never mind. Here we go.

So, these are just some slides from the, a cultural fair that was hosted at Wake Tech a couple, I think it was last year, if I'm not wrong. And, you know, just exposing everyone to different cultures, like you were saying, Doctor Fox, is very huge. You know, it gives students the, the, the exposure they need to really collaborate with

different students and be able to, you know, excel at different areas that they may not have known that there were strong.

And just to let the audience know, if you have any questions, you can put them in the chat, and we are more than glad to answer any questions. Just put them in the chat below, and we'll get right to them.

All right. So, we are back. So, we do have some questions from the chat, and Jerry, if you could display the first one on screen from Rasheed. So, Rasheed Graham is asking, "From the student's perspective," so he must be talking about David and Ben, "looking back at your first year at Wake Tech, what could an instructor do to help influence a student's self-efficacy and motivation?" So, Ben, you can start us off.

SAUCEDO: That's a great question. I gotta think a little tiny bit about that. Personally, I think ways instructors can definitely, you know, get students motivated is for the instructors themselves to be motivated, for the instructors themselves to be engaged with the content they're delivering to the students. Because it's one thing to, unfortunately, experience instructors whose sole teaching method is YouTube videos. And there's another, you know, it's a completely different ballgame when there's professors who are taking the time to walk you through concepts and explain things and will graciously answer any questions that the students have. So, I think that's my number one advice is for the instructors themselves to be engaged and motivated and, you know, excited about the content they're teaching themselves.

HEWITT: Yeah. I agree with that, Ben. I mean, even as a student now, I have had classes where the motivation levels weren't always there, sometimes because of the instructor. And, you know, from an instructor's point of view, I do believe that, yes, you're right. They should, they should strive to always be willing to motivate the students on days where, you know, they might, may not be feeling it.

SAUCEDO: Right. Exactly.

HEWITT: Now, we have another question from Valentin Hernandez, and he's asking, "Do you all have any advice to build your network?" So, I know that Mr. Rolando is huge on building networks. So, Mr. Rolando, could you, could you answer that one for us?

RISSBEE: Yeah, happy to. I would say start with LinkedIn. Definitely attend events that you all host on campus, off campus. Just attending events, you get to meet

faculty, staff and such at, like, events like this right now with Doctor Fox and myself. We're attending it. You can build your network through virtual or in person, so don't limit yourself.

HEWITT: Excellent.

KWAN: I would like to add one thing. Doctor Fox mentioned about career fairs. I know that N.C. State holds numerous career fairs for engineering, for different departments, too. So, mechanical and aerospace also have their own career fair, which is very big, where a lot of the industries would come in, and you can talk to them to see what it's like to work for a certain company, what is required. Also, there's a lot of clubs at N.C. State which students can participate in. A lot of those clubs will sometimes, will often have speakers from different companies that will come in and talk about their work at a certain company, their experiences. And that's another way to network with them. Also, there will be a lot of students, former students from N.C. State that were in, in, at N.C. State before they graduated, and they can come in and talk, certain classes' professors will invite them, and talk about their experiences and how, how if you want to go out to a certain company, to a certain industry, how, what their experiences are and how they achieved, you know, how they got there.

HEWITT: Excellent.

FOX: Yeah, I'll just add to what David said. I mean, one of the things that's, I think, really important is to, is to meet other people that are in your cohort. Right? I mean, I think it's, especially as a first-generation college student, for me, I'm still best friends with the guy that was sitting next to me in my first biological engineering course at Texas A&M. And our wives are really good friends now. Right? So, you're going to form this network, and you're never going to know where that network might come back and be, you know, very, very beneficial for your career.

But yeah, LinkedIn, all those types of things, but take advantage of those opportunities to just, you know, go to meetings, volunteer for things. You know, I think, I think just, you know, I think we have to be careful that we don't overcommit ourselves. Right? And that you don't overcommit, but I think take the time to get out of your comfort box. Right? I mean, sometimes we're comfortable just kind of, "I'm gonna do my homework, and I'm gonna turn it in, and I'm good." And, you know, "I'll do that later. I'll do that next year." And we even encourage, with our career fair coming up tomorrow, we encourage our freshmen and sophomores, "Be there at the career fair." Even if you're not interested in a job, go meet them because most of

those people are gonna be alumni of our department, and you're gonna form a connection. You never know where that connection is gonna, is gonna eventually lead you.

HEWITT: Yeah. Yeah, I, I completely agree. And even me, just being a second-year student, I have seen opportunities come, and, you know, they may have seemed small in the moment, but when I take them, it has bloomed into something more beautiful than I would have thought.

But yeah, we have some more questions in chat, and another one directed at Doctor Fox. So, we have one from Northern Wake Tech Advising, and they are asking, "Will they, will the degree plans for your programs be listed on the college's website for community college students soon?"

FOX: If they're not listed, we will figure out how to get them listed. And if you have any issue at all, getting a degree plan or getting information about biological and ag engineering, either our biological engineering degree or engineering technology degree, you can just send me an email, and I will personally answer you back with a link that shows you exactly where to get to the degree sheets. And we will make sure that we've got, we've got one of the best student services coordinators on campus. Her name is Heather Austin. Her daughter actually graduated from our program, and so she knows the ins and outs of everything. So, we can get you in touch with, with her. We get you degree sheets.

If you google my name and you make sure you put the E between the R and the Y, you will absolutely find me, because my parents did something really weird and spelled it that way. So, but it's really easy to, it's really easy to find me now.

HEWITT: Yeah. Yeah, thank you. Thank you. Appreciate it. And we have another question from chat from Valentin Hernandez again, and he's asking, and I want to direct this to anyone who is willing to answer, "What can we do as a society to encourage minorities to pursue a path in STEM?" Anyone feel free to answer this question.

SAUCEDO: OK, I kind of want to jump into this one. So, I would say, personally, well, definitely everyone's experience is going to be so different. For me, for example, I grew up in Los Angeles. So, I grew up in an environment where I was surrounded with plenty of other minorities who were taking, you know, upper-level math classes, honors classes and things like that. So, I personally never felt discouraged because of being a minority when taking rigorous courses like that, and

that sort of, that's, that still stays with me. And now that I'm here in North Carolina, like, I don't really feel that intimidated being in the room where I'm the only person of color. For example, in my Calculus 2 class right now, I'm the only person of color, and everyone else in that class is white. But that doesn't discourage me. I would say that, just kind of a way to stay motivated would, also just look at the, the numbers, look at the data, and you'll see that, at least for, I'm gonna speak for the Latinos, at least for the Latinos, a lot of Latino education peaks at high school, and the number of Latinos who get college or associate or master's and doctoral just keep going down. And the fact that you're even at a community college, you're already defeating the odds.

And I would say just continue thinking about how there's not that many people, like any minority group that you're a part of, that there's not that many people that look like you in those fields. I would say that that's kind of what keeps me motivated, and, hopefully, that's what kind of keeps you motivated also. Just try to envision yourself to be that minority in STEM. Just keep pushing through, and, hopefully, that can serve as a motivation factor.

HEWITT: Yeah. Yeah, and, again, it's important, you know, we have people like you, Ben and David, who are members of minority groups who can come on and really advocate for students and, you know, let them know that they're not alone, that they can do it once they apply themselves.

Yeah. So, we're going to bring in Ms. Katina Beasley, who is an advisor at Wake Tech. So, we're gonna have to say goodbye to Ben for the day. Thank you, Ben. It was a pleasure having you, as always.

JOHNSON: Thank you so much, Ben. And, of course, it was a pleasure having you, and I hope we can see you again soon. You gave us some great insight and some great advice.

SAUCEDO: Yeah, absolutely. If you guys invite me back, I'll be back, of course. Thank you guys again so much.

HEWITT: All right. See you, Ben.

JOHNSON: See you, Ben.

HEWITT: And As Ms. Beasley's joining, I'm gonna hand over to Damian, and he's going to take the reins.

JOHNSON: Of course. So, there's just some general questions that anybody in the panel can kind of answer. What type of opportunities do you guys think there are for students to learn more about the areas that you guys are interested in and that you guys are working in, in terms of internships, information sessions like these? How do you think they could be more involved in those, and who can they really talk to? And, yeah, as I said, anybody can answer, but it seems like we got Mr. Fox. So, go ahead.

FOX: Yeah. I would just say, you know, just reach out and make those connections. Right? It's almost going back to the, kind of the networking idea. You know? If you're interested in our program, you know, reach out. Let us know that you're interested in. We'll, we'll get you on campus. We'll give you tours. We, we can set up, you know, group meetings with a set of student ambassadors that go through and, and lead the students around the building and talk to them about their experiences in both our engineering and engineering technology programs. So, just, honestly, just, just reach out. Right? And then start ...

KWAN: Yeah.

FOX: Look, look me up on LinkedIn. I'm on LinkedIn. Connect with me, right, and then send me a message and say, "Hey, I'm interested. Love to get some advice or love to learn a little bit more about your program."

JOHNSON: Yeah. And I was going to kind of ask about that. Do you think they have a better chance if they're talking to people more so in person? Or would the emails and stuff beforehand also be beneficial?

FOX: Yeah. I mean, I think emails are always a great way to get started, but I think that any kind of, any time you have that personal connection, it's really, it's really important. So, one thing we can do at N.C. State, for example, is give a little bit of additional, kind of emphasis to somebody's application. For example, to say, "Hey, we've met with this student, the student's very interested in our degree program." And we can work with, we're actually split across two colleges here at N.C. State. We're in the College of Engineering, and we're in the College of Ag and Life Sciences. And so, we have two pathways that we can help promote your application. So, and, you know, again, reach out, make that personal connection, and email's always a great place to start. But having that personal connection is really important.

JOHNSON: Thank you so much, Mr. Fox. Mr. Riggsbee, I think I remember you talking about a 110 program and internships around that. What do you, what would

you say your university has to offer, and how people can kind of get more interest into that and work on their career paths?

RIGGSBEE: Yeah. I was just about to mention that. Nice segue, Damien. Yeah, I shared the link with Michael, so he can share it with you all. And definitely LinkedIn, like Doctor Fox said. That 110 program, I was introduced to it, and it's big within Cisco and I'm sure within other, you know, different companies. But LinkedIn, and then we can advise you on different programs we have within the companies we work for. And also, we're, like LinkedIn is tied to multiple companies, I mean, and the 110 program as well, it's tied to more than just Cisco. Right? So, there's plenty of opportunities out there. So, I would say get started with programs like 110 and then don't be afraid to reach out to someone that you see or met through a virtual meeting or the career fair. Get the business card or share, you know, contact information and reach out. My, my phrase is this: You have to learn to be comfortable with being uncomfortable.

JOHNSON: Yeah, 100 percent. That's, that's a big one. You gotta, you know, get up out of your comfort zone and get used to doing things that you're not used to doing, or you're never gonna grow. So, thank you so much for that information.

Taj, I'll let you go on and introduce Ms. Katina Beasley up here. It's good to see you.

HEWITT: Thank you for coming, Ms. Beasley. And everyone, to our viewers at home and to our guests, this is Ms. Katina Beasley. She's an advisor at Wake Tech, and she does a very good job. Actually, she's advised me before, so I can attest for that.

KATINA BEASLEY: Good afternoon, everyone. Again, my name is Katina Beasley. Just listening to everyone and their input that they have to day, as an academic advisor, what Mr. Riggsbee was saying, you know, definitely be sound when it comes to your math skill set. And I always say, make certain that you reach out for help before you need it. so when you do need it, you already know where to go. Anyone that's interested in engineering, know that the foundation starts in math. So, really, being that lover of math – not making yourself love it, but really love it – I think it makes that engineer pathway something that's easier for students. So, always do your best in your classes, and, again, reach out for help before you need it, so when you do need it, you know exactly where to go.

HEWITT: Yeah. Excellent. I'm glad to hear that, and I just want to ask you to speak to this: So, what do you do with engineering students, and how are you connected with North Carolina A&T, because I know you have a connection with them?

BEASLEY: Yes. I am the liaison for the Aggie Plus program, and for any student that is interested in a smooth transition to A&T, I always assist or make certain that they know about the Aggie Plus program. With the Aggie Plus program, it does give you a guaranteed admission to the college, but it does not guarantee you admission into certain programs. So, you do have to meet the transfer requirements for the various programs that students are interested in pursuing. And engineering is one of those programs where they do have a certain GPA and classes that you are required to have in order to be considered. But, yes, as the liaison for the Aggie Plus program, anyone that is interested in that program, I do ask that you contact me. Again, Katina Beasley, academic advisor at Wake Tech.

But when it comes to advising, it really is knowing exactly what direction that students are interested in pursuing. We are not saying, as an academic advisor, "You are going to do this for the rest of your life," because just as they are mentioning the experiences and the connections, things can really change. You may be in the same area but not doing the same thing. So, as you are taking your classes, doing your best, make certain that you're taking the courses based on the direction that you're going. So, when you do transfer to a four-year college, you know you took the same classes as a student that's already in the major. You just took your general education courses at the community college.

HEWITT: Yeah. And are there any other programs with other schools, or is it just A&T?

BEASLEY: Yes, we do have special admissions programs on with, if you asked me all of them, I do not know all of them. But I know we do have one with N.C. State with the C-Plus program. We have the C-STEP program with UNC-Chapel Hill. We have the 49ers with UNC-Charlotte. But on our transfer resources website, on the college's homepage, you'll see all of those special admissions, the different projects that we do have. But, for me, in particular, I am with the Aggie Plus program with North Carolina A&T.

HEWITT: Well, excellent. So, we have a lot of members and a lot of facilities right here on the show for the viewers. But right now, I want to get into the START program, actually. I want to talk about that a little bit because applications are actually open right now for the START program in the Spring semester. And Jerry is going to place a link on the screen, and I'll explain more. But he has placed it in chat for all the viewers at home if you want to know more about the START program and

also the Wake Tech engineering link. So, Jerry, if you could display it on the screen, and while we're waiting on him, I'll just go ahead talking, talk to you about it.

And so, the START program is essentially a program where students can do a research program. You know, they work together with their mentor, once they get accepted, that is. And, you know, it's a paid program. It's a paid internship. You apply, and it's a random acceptance, and once you get accepted, it's up to you now to work with your mentor to figure out what your research program is gonna be about, based off of the, the program that you actually applied for. And, personally, I was in it as well. Ben was talking about that earlier in the show. Yes, I was in it with Ben, doing statistics from the U.S. 2020 Census, particularly for the Latinx community, and it's, it's a great, a great program. I can, I can really say that. So, for any students watching right now or anyone that's interested in the START program, that link is in the description below. The link is in the chat, so, you know, feel free to go ahead and, and find anything you need.

And then, we also have the Wake Tech engineering link, and that's also in chat. And I can't really speak much about that because that's, that's all so new to me. But, if you want to know more about it, you can go down to the description, and we will scroll through it right now to just see what it's about. You know, we have Biotechnology, Engineering & Skilled Technologies at Wake Tech. You know, we have Advanced Engineering and Manufacturing Technologies. You know, I know that we do welding down by Building K and J, if you've ever been down there. You know, we do welding and all different sorts, you know, in electronics and electrical systems. I'm sure Mr. Rolando is familiar with that. But, yeah, just to give all the viewers at home a little bit of insight on all the things we do here at Wake Tech. You know, it's not just, not just science, not just arts. We do a spectroscopy of everything.

But we're coming down to the end of the show. It's been great. It's been very informative. You know, we have David and Mr. Rolando, Dr. Fox, Ms. Beasley just coming in. Thanks to Ben and my co-host Damien, of course. I mean, it's been, it's been incredible. The insight that that you wise people have given us today, you know?

JOHNSON: Yeah, it has. Oh, sorry. Go ahead. No, it has been absolutely amazing talking to every single one of you. Thank you, Ms. Beasley. Thank you, Mr. Fox, David Kwan and Rolando Riggsbee. You guys gave us some great information. I hope that everybody listening right now takes it to heart, takes heed to it. You know, go out, get out of your comfort zone, go apply, go network if you can. I actually came

from a networking session earlier today that was hosted by Wake Tech. So, we do have a lot of opportunities for people to go out and really, really get those connections going. And once you start, once you start, I feel like you won't ever stop, and the doors will just continue opening and opening, and you'll be led to the right pathway. So, I think that might be everything to go with, right, Taj?

HEWITT: Yeah, exactly. And right before we go, I just want to say that the Advising link for anyone that's interested is also in the chat. So, anyone interested in, you know, receiving advising, receiving some help on what you want to do, where you want to go, you can click that link in the chat. So, right before we go, I just want to ask everyone if we can have one final thing. You know, what's one thing that you want to give to any student watching as, you know, a final, you know, closing statement? You know, this is what I want to say to you. So, we'll start with David.

KWAN: Yes. Uh, I just want to say that, you know, sometimes a student, it can be, it seems intimidating because of a program. They might think whether I will make it, whether I'll be able to do this or do that. But sometimes you have to, you know, take a breather, and there's a lot of resources that, there's a lot of people that will be able to help you navigate through those different choices that you make. And I know that there's a lot of resources at Wake Tech that can help you do that. So, you're not alone, and I'm sure that you have peers and students that are in the same situation, and you guys can come together and help each other out, too.

HEWITT: Yeah. Excellent. Mr. Rolando?

RIGGSBEE: I would say take advantage of the Cisco certification programs academy at Wake Tech. Get certified. Open doors to jobs.

HEWITT: Yeah. All right. Ms. Beasley?

BEASLEY: I would say, for the engineering students at Wake Tech, please keep in mind that you have an Engineering Care Team that consists of your instructors, academic advisors, success coaches, as well as career coaches. So, whenever you have any questions at all, just know that your Engineering Care Team is in place, ready to assist with any questions that you do have.

HEWITT: Excellent. Doctor Fox?

FOX: Hey, just come, come check us out at N.C. State in biological engineering and biological and ag engineering technology. Some of our best students have been

transfer students, and we'd love to have you come into the program and get your hands dirty with us.

HEWITT: Yeah. Working with sweet potatoes there.

FOX: That's right.

HEWITT: All right. So, I thank all you panelists for coming on today, and, on the behalf of me, Damien, Michael Eure and Jerry Greene behind the scenes, I want to give a big thanks to all our viewers back home or wherever you might be. This was a very great show, a very informative show. We look for many more, and yeah.

JOHNSON: Thanks so much, everybody. I hope you have a, a great night, obviously continue doing what you're doing. keep making progress and, hopefully, you'll see some of us over there at State, Mr. Fox, over there at A&T, Ms. Beasley, Rolando. Yeah, thank you everyone for your time. Mr. Kwan. Thanks, Taj. It was a great show. I enjoyed it.

KWAN: Thank you. It was a pleasure.