PRECISION MACHINING AND MANUFACTURING PODCAST

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S1: If you're looking for some hands on work that is growing exponentially, I think this would be a great field for you.

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S2: I think that, you know, this Chatt Tech program is amazing. I love how Chatt Tech offers so many different opportunities. It's just a great place to go to be able to have the flexibility to do that.

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S4: 98 7 Chatt Tech - where 98.7% of our students earn a career. Today, we're going to cut into the Precision Machining and Manufacturing program located on Chatt Tech's North Metro campus and the new 20,000 square foot center for advanced manufacturing. We'll talk with the dean, some faculty and students about classes, careers and qualities needed to help students succeed in the industry. Let's jump right in with the dean of the program.

00:00:52

S5: My name is Marcy Smith, and I'm the Dean of Business and Technical Studies at Chattahoochee Tech. Precision Machining and Manufacturing is sort of an umbrella term to include machine tool technology, which is kind of an old school way of machining. And then also C and C technology, which is the computerized numerical controllers, the machines that are operated with computers. So our program includes both of those things. So students are going to learn the fundamentals, the machine tool, they're going to learn on the lathe, learn on the mill, and then they're also going to learn how to operate the C & C machines. And that's what's unique about that program. And it positions students very well to go in the machining industry and kind of have that whole background.

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S4: Thank you, Marcy. Let's speak to a student. Wyatt, tell us a little bit about yourself.

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S1: Yeah, my name is Wyatt Owenby I am 27 years old. I work for a company called Kirk Rudy, Inc., based out of Woodstock, Georgia. We make industrial printers, and I'm a C N C machinist.

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S4: So what exactly is C N C?

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S1: C N C stands for Computer Numerical Control. So basically, it's using computers to control something, whether it's industrial machinery or not, but it allows you to program a computer so you get rapid reproduction capabilities where it can do the same thing over and over again faster than a human ever could. Okay.

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S4: Can you explain to everyone what a machinist is?

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S1: Yeah, I there's two people, two people that have asked me what I do for a living. And I tell them I'm a machinist and they know exactly what it is. Everybody else ask me what I do for a living, and I tell them I'm a I'm a machinist. And they just be like, Oh, okay. In the head nod. I ask them if they know what a machinist is and they own up and they say they don't. And I have no problem explaining it because if you don't explain it, then nobody will ever know. Like today at work, I was working within a tolerance of like 1/30 of the human hair.

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S4: I'm sorry, 1/30 of a human hair. Gillette. The ball's in your court.

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S1: And you never realize that. Or how much engineering and skill and attention to detail it takes to go into something. The amount of precision it takes in your day to day life.

00:03:01

S4: So Precision Machinery is in a lot of places. What made you decide to get into this program?

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S1: I didn't know what I wanted to do, so I joined the Marines and spent five years in the military trying to figure it out. And I had an uncle that was a machinist, and he told me he's like, Hey, you should do this. You should look into this. I think you'll like it. I saw what it was about. I watched a couple of YouTube videos and jumped both feet into the Chattahoochee Tech program.

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S4: Wyatt, Tell us about the learning experience at Chatt Tech? How are the instructors?

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S1: First off, it was awesome. Wayne Plos the instructor. He's a great guy, very knowledgeable, laid back, friendly, super approachable, great teacher. The amount of money that the school has gotten for this program specifically to be able to purchase machinery for students to practice on so they have like real world, real time capabilities is awesome to the program. Everything was in-person or had an in-person aspect to it. There was there was some like lab class these where you showed up for like the first week and then you would come in as your schedule allowed to get projects done. Throughout the time there were some traditional classes where you sat and it was almost lecture like, but not death by PowerPoint, if you will.

00:04:11

S4: Death by PowerPoint. It sounds like an office coverband. Let's bring in a professor. Wayne, can you introduce yourself, please?

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S3: My name is Wayne Plos. I am the C N C instructor for Chattahoochee Technical College. I teach precision machining and manufacturing program deals with metalworking, including lathes, mills and CNC equipment or the equivilant.

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S4: What sort of students do best in the program?

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S3: Students that like, work with their hands like puzzles and like to create makers. The maker industry started like ten years ago. I think anybody likes a 3D print. We we do that out of metal, we do subtractive manufacturing, but there is additive manufacturing too, so you can 3D print metal as well. A lot of those individuals. There are multiple aspects of how we do our job. You can do manual machines, you can do computer based machines. If you like, working with solid models and software, there are people that just do that. There are people who like to work actually with the machinery themselves so we can tailor the jobs pretty much whatever you want in terms of who you are and how you want to be in your career.

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S4: Now Wayne, will students spend a lot of time in the classroom?

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S3: It's mostly lab based. I'm a firm believer that you can't really learn to be a machinist reading a book. We have books, textbooks, and we have some book work, but a majority of our program is lab based. We will be hands on. I can try to get in the shop as soon as possible. I want to do I want to make I want to I'm a fidget or I like to hold things and look at stuff and I want to figure out how it's made and if I can make it better. I want my students to be the same way. A lot of people don't even know what a machinist is. It's kind of one of those things that we're involved in everybody's life. Like the chair you're sitting in, the machines that stitched it. We're made by the parts booth machines and made by machines. The car you drive, the parts are made by machinists. We're not assemblers. We create parts for machines to make other things. We create end user parts as well. Industry is amazing.

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S4: Okay, Got it. So I'm just a few A I classes away from building my very own Ultron. What kind of careers and money are we talking about here?

00:06:23

S3: You can be in aerospace industry. You can be in automotive industry. One of the makers of our CNC machines are it's called Hoss. It's an American company. He got started because he loved racing. And there's a Hoss formula team. And there's a Hoss NASCAR team. There's mold, mold work. So long time ago, I worked at a plant as a mold tech.

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S4: I'm sorry, mold tech. It doesn't sound like it fit in Precision Machining.

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S3: I made Tropicana juice bottles. We made the molds, the negatives for making the bottles out of plastic.

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S4: Oh, you see, I was thinking about a different type of mold.

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S3: Your ambition and passion for what you're learning or what the career field you want to be in will dictate the wage you can command. It's around the average of starting between 18 and 20 bucks an hour. If you're really, really good, you can get bumped up really fast. I know people who started at 25 to 30. One of the cool things of the area we live in is there's tons and tons of industry. And my students right now have pretty much got a job if they want it .

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S4: Maria, you're a former student, right? Tell us about yourself and why you chose to be a machinist.

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S2: My name's Maria Freeman. I am a machinist at a company called Meritus right now. And I operate C & C Mill Turns and three axis mills and five axis mills. I'm a retired high school math and science teacher. I worked 20 years teaching kids, and I was getting kind of burned out. So I had decided that I would explore machining because as a teacher I taught a lot of at risk students and we like to take them on field trips to Chatt Tech. Every time I would go twice a year to Chatt Tech and just look at all of these available opportunities that my students had and I fell in love with the machine shop. I really liked the machine shop. I really like the instructor and how he related to my students. And I thought, well, this would be a perfect place for me to, like, start over.

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S4: So what was that like? The experience of going back to school after starting over?

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S2: Well, I thought it was fascinating and really exciting. And the other thing is, is, you know, it's not that different in the sense that I'm I'm a math and science teacher. So it was like instead of just teaching, theoretically, I was actually applying what I already knew. And like every time I would have a program and run a program on a machine, I have to make sure that this part comes out according to the blueprint that I had. So I'm taking this blueprint and I'm taking this program and I'm making this part. And if it doesn't come out, the dimensions don't come out perfectly. Then I have to take a variable and change it. Just like in science, you have to change a variable one at a time. Then to see if you can actually, you know, achieve your goal at the end of the experiment. So it's like every day that I, you know, run a machine, it's like I'm doing an experiment with every part that I make. It was really nice because it was more applied mathematics and applied science that I'm doing now rather than teaching the theoretical.

00:09:34

S4: Okay. Can you explain to everyone what a machinist is?

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S2: And there's different levels of machinists. We have like manual versus C N C. So a manual machinist would use machines like a lathe, which turns metal or sometimes plastic or other materials. And then we use cutting tools to cut what we need. There's also mills, which basically, if you've ever seen like a drill press or something like that. Except it's much more flexible. You can move whatever cutting tool you have into the material, you're cutting at different angles and so forth to get the shapes that you want out of that metal. A, C N C machinist uses computer programs to take a blueprint of a part that they want to make. And they basically will create a program to tell a very large machine, We want you to move this tool this fast and cut this much material off of it to make it this particular part.

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S4: What are some of the qualities that do well for students in the program?

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S2: I think that you really kind of have to be a little bit of a self-starter. You have to be willing to take a risk and find something that you're interested in and kind of go for it. All the instructors that I met there within my program were incredibly inspiring and really excited to like, see us succeed and like, make opportunities happen. Those types of opportunities, they were presented to me that would never have been presented to me outside of Chatt Tech. You have to be responsible enough to set up time and make sure that you're doing homework on your own. There's no real hand-holding. You know, you're treated like an adult. There is an element of being a self-starter and being able to implement adult team practices. And if you can do that, then you can get through this program. Not a problem.

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S4: Adulting practices. Is there tutoring available for that? Let's see what's milling about with someone in the industry. John, can you introduce yourself?

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S6: My name's John Hudson, co-owner of Winn Tech Inc. We are an aerospace machine shop in Kennesaw, Georgia. I've been with the company about 32 years. I started here while I was attending Chattahoochee Tech under the Machine Tool Program, and October of 2020, Allison Giddens and myself, we purchased the company from the man who started it, Dennis Wenzel.

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S4: And what is it that your company does?

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S6: We make precision parts out of metals, plastics, ceramics, just different medias. And we make parts for just about every air wing platform that Lockheed has, whether it be the F-22, the F-35, the C-130, the C-5, the P-3. We also do missile fins for Lockheed missile and fire control and other components that go to missiles.

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S4: What kind of students do well in precision machining?

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S6: People who like to work with their hands, people who like to figure stuff out and, you know, have somewhat really good spatial recognition, you know, because a lot of times you'll look at a blueprint and you have to be able to visualize that piece of paper into a part. So you know how to go about making that part. A lot of times when show a blueprint to somebody who's just not truly inclined to have that aptitude, they just look at it like a picture with a bunch of numbers on it doesn't mean anything to me. But if you hand it to somebody who has a knack for it, they can go, Oh, man, that's going to be a cool looking part because they can visualize what it is. You need to know math.

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S4: What is the starting pay for graduates that you hire?

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S6: Right now, you're probably look in between there and this is a wide range, 15 to $22 an hour start. Just, you know, it's going to depend on where you go. You know how well you did. What did you pick up? It's like anything, it's you stay and work your way through it and you stick with it and you keep pushing yourself to learn and get better. The money's there. It's that it was that way in all trades. You're valuable. You've got a lot of knowledge at that point, you know, And you're going to be making good money.

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S4: Thanks, John. Wyatt, What's the job market look like from your perspective?

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S1: It's interesting in the industry right now because the supply and demand of machinists, there is a low supply of them and there's a high demand. And every company is is competing for machinists. And since nobody knows what a machinist is, nobody's going to school for it. So all these other blue collar trades have have shot up over the past couple of years. You look at welders and plumbers and HVAC and everybody knows what those people are, but nobody knows what a machinist is. So all these companies are starting to have to pay more and more every year. I think you're looking at probably 20 to 25 bucks an hour, starting off working while you're in school. I don't think that's too much to ask for or to expect working part time.

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S4: Okay. So no Ultron, but possibly airplanes and missiles. And it's time to put a burnishing on this. Who's got some final thoughts for us?

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S2: I think that, you know, this Chatt Tech program is amazing, but at the same time, I love how Chatt Tech offers so many different opportunities. So if you start something and it's not really for you because I think it's very important that people find things like find out what's not for them as well as what is for them, that there's other things you can jump into. You can start a different program doing a whole another job. It's just a great place to go to be able to have the flexibility to do that.

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S4: Thank you, Maria.

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S3: I really like my field of work. I like to create. It's it's a lot of fun. If somebody liked using compasses and pro tractors and rulers in school, they would probably like what we do.

00:15:23

S4: That's awesome, Wayne. Hey, Wyatt.

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S1: If you're looking for some hands on work that is growing exponentially, I think this would be a great field for you.

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S4: For more information about the Precision Machining and Manufacturing program at Chattahoochee Technical College, visit Chattahoochee Tech Dot edu. Thanks for listening to 98 seven Chatt Tech where 98.7% of our students earn a career.