NARRATOR: In virtually every art course and studio environment at RIT, technology is integral to the delivery of content and production of work. In this episode of Intersections: The RIT Podcast, Elizabeth Kronfield, director of the School of Art and School for American Crafts, and Abigail Benkovich, a second-year MFA metals and jewelry design graduate student, discuss the university’s never-ending focus on intersecting technology, art, and design, and how RIT is in a unique position to blur the line between technology and making for students in the College of Art and Design.

ELIZABETH: What’s really unique to us here at RIT is our access to technology. I think that’s something that is very exciting for our students to be able to utilize that alongside their very traditional methods of making. We have ceramicists that throw and use digital printing devices to print other ceramics pieces. And I think, Abby, you have some really fantastic examples of working both traditionally and with new technology in the creation of your work.

ABIGAIL: Yeah. So, especially with metalsmithing, just yesterday I was forging an ingot into a sheet of metal. And we’re doing casting. And that’s all like really, really old techniques that we’re doing today, which I think is really cool. On top of doing that, we also have classes like Technology in the Studio, which allows us to think about technology and how we can combine it with the techniques we’re learning. In the professional field with jewelry, technology is the standard. I learned Rhino computer aided design, which is specifically for jewelry. And you 3D print in SLA material, which is a casting wax. You use the old technique of casting with this brand-new 3D-printed piece, which can be anything you can make on the program.

ELIZABETH: And you’re able to do the printing right here in the College of Art and Design?

ABIGAIL: Yes. It is just an elevator ride down. I can make the piece on my laptop and then send it in and they’ll print it for me. All I have to do is take off the support, maybe sand it a little bit and then screw it to be casted.

ELIZABETH: For examples, what type of metals are you casting?

ABIGAIL: I’ve been working a lot in silver. I’ve done some gold. But mostly people here are doing bronze or copper casting. I have a necklace where there was some wire involved as well – a wire structure with an organic shape that would have been really hard to make by a normal metalsmithing way. And what I did was I cut off the parts that were too hard to make by hand in Rhino, sent those in for 3D printing, casted those separately, and then soldered it together with the wire structure. So, it was a necklace of a combined piece of fabrication and 3D-printed and casted pieces.

ELIZABETH: And in your work, Abby, the materials can range also. We’re talking about using a very modern technology, contemporary technology, to produce something that’s in a material that’s been utilized for ages. But what are some of the openings, what are
some of the new avenues for materials that the new technology has allowed you to use?

ABIGAIL: Definitely the plastics and the FDM prints, which are more of just a basic 3D printing material than plastics. I think they offer this fresher contemporary look. I know in the field of jewelry, acrylic jewelry and resin jewelry is actually really popular right now. But having this white or color plastic organic form is pretty contemporary, especially when you pair it with silver, or I’ve been paring it with steel wire and that’s what I did for Rochester Fashion Week, too.

ELIZABETH: Can you elaborate a little more about Rochester Fashion Week and how you went about making the work and how you used some of the technologies to do that?

ABIGAIL: Rochester Fashion Week was kind of an open book for me. It was kind of like, here’s a platform, and you can make whatever you want to make with whatever material you want to make it with. And I had just freshly come off an internship from the summer where I had learned Rhino, so I wanted to implement Rhino and 3D printing into my work for Rochester Fashion Week. I had this idea of wanting to expand volume off of the body but also bring the volume in to the body. The only way I could think of bringing volume in to the body was looking inward, so taking inspiration from the muscular system and the skeletal system. But in my work, I also work with streetwear aesthetics and utility and readymade. I, in Rhino, kind of mixed skeletal bones and utility materials like carabiners together to make these components that lay on the body and were connected by metal cords. So, it kind of was like this constricting look on the body. One thing that I was happy enough that I could maybe inspire people to do is to work bigger, work larger. Actually, 3D printing really helps because one of the biggest problems with working bigger in jewelry and accessory is weight. So, if you can print in a light material, you can start to go as big as you want to go without the burden of, of this metal is too heavy or it’s too sharp to be placed on the head, or it’s too heavy on your shoulders. That’s also a part that really helps me with figuring out the weight. One of my biggest influences is Iris van Herpen and Craig Green, and they both use large accessories or multiples of a similar component built together to make this new type of sculptural fashion.

ELIZABETH: The studios being equipped with both the traditional and the new technologies really give students a chance to expand their creativity in ways that weren’t possible 10 or 15 years ago or weren’t likely to be experienced in the classroom 10 or 15 years ago. I've always said – I teach sculpture – so, I've always said you have to know the rules in order to be able to break the rules and break them well. And I think that our students are really in a great position because they learn all the technical sides of things. They learn how to work with materials, they understand that materiality, whether it’s silver or whether it’s plastic or whether it’s wood in the furniture design department. But there’s this understanding of the traditional way of working and the way that material reacts to tools. And then there’s this chance to break the rules. Right? So, our students are able to come in and swap everything up. Abby, I love how you’re
talking about the idea that silver is replaced by plastic and that weight is no longer an issue. So, the new technologies allow for a material change, they allow for a conceptual change. We think of silver as being traditional, we think of silver as being valuable, we think of plastic as being something that can be thrown away, and our students are changing that. They’re swapping that up. They’re making plastic be desirable. They’re making lightweight materials, whether it’s cast foam, be something that is put up on a higher pedestal, both in reality and conceptually. There’s this idea that technology can change our way of thinking, so I think that our students are well-equipped in learning both those avenues. And then they get that freedom to kind of decide where they fit in that world, whether it’s the more traditional hands-on approach to making or whether it’s a little bit more distanced and using that technology to create their ideas.

ABIGAIL: I think with changing materials and opportunities and weight, I think my time in the Technology in the Studio class changed a lot of my processing of how I build stuff because I do a lot of work where things will lay on the face, or headpieces, or facepieces. So, in my undergrad, I only knew that I wanted to work with metal and I only knew, ok, I’m going to make this facepiece, and it’s going to be out of copper. And I wanted mirrors on it and I didn’t really know how to do that without it being sharp or without it being heavy. And then I come into my Technology in the Studio class, and we’re coding with Arduinos. And so, that also opens up motors and lights and laser cutting. I found that mirrored acrylic laser cut gave me the same resolution that I was hoping for in that mirror of copper. So, that mirrored acrylic really helps me and it was super light and I put a motor on it, so it opened and shut. They were like sunglasses that went on and off of your face. It expanded what I thought my pieces can be.

ELIZABETH: That’s exactly what the class is designed to do. I love it! And it’s in the very first semester of our master’s degree programs, so that it can hopefully open those students’ eyes and really give students who come from a very traditional background the opportunity to see how they might integrate the technology into their work and to make new things. It’s hard to have a machine throw a pot for you. But it’s possible to have a machine print a pot. And those are very different things. And our students are exposed to that and they’re able to see the differences and understand what the hand can do and what the hand can say through a material versus what can be created in the mind and then digitally and what that says with the material. So, they’re very different things. And it’s important to all our programs that students have access to both.

ABIGAIL: I think in the department right now, I’m seeing more technology start to be included. And I think that’s really awesome. But it’s never, in our department, the end all. We use it as a really helpful tool or we add on to it. Once something is printed or once something is laser cut, there is that part where it’s not just finished, so we add on to it with our traditional techniques as well. I think that’s a really cool marriage of techniques being done right now. But I think in the future digital design is actually really growing right now. You see digital fashion and digital accessories. You see filters with jewelry design where you can put that up on to your face and the filter of a facepiece goes on it and that’s done through coding and 3D modeling. So, I think that could be a really interesting step into the future. And I know when I’m graduating, I will be focusing
more on design and doing more computer automated designs for jewelry and 3D printing that to make models to be manufactured.

ELIZABETH: Abby, you were talking about the idea of designing jewelry in apps. And that is something I never even thought of. But it's so incredibly exciting.

ABIGAIL: Yeah. So, digital fashion is starting to become bigger and bigger. Obviously, NFTs are a huge digital art format as well. But I'm seeing filters and even companies where they Photoshop on digital fashion. And I see that accessories can start to do that as well. There are filters for bags or for hats or jewelry as well. A lot of jewelers now use Snapchat filters or Instagram filters with their jewelry as promotions for people to buy their actual jewelry. Incorporating technology is a way for your audience to easily access your pieces. It might be an interesting way for them to maybe then make a real-time purchase on your pieces.

ELIZABETH: Yeah. I find that extremely interesting.

ABIGAIL: And it's all done with 3D design. You have to make it in CAD first or Rhino or Blender. All of those are kind of the building blocks. Those are also the files you can then use to 3D print as well. So, they can be filters and then they can be real with 3D printing.

ELIZABETH: Very cool.

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