Innovative 3D Printing adds creative spin to SIUE Ceramics Class

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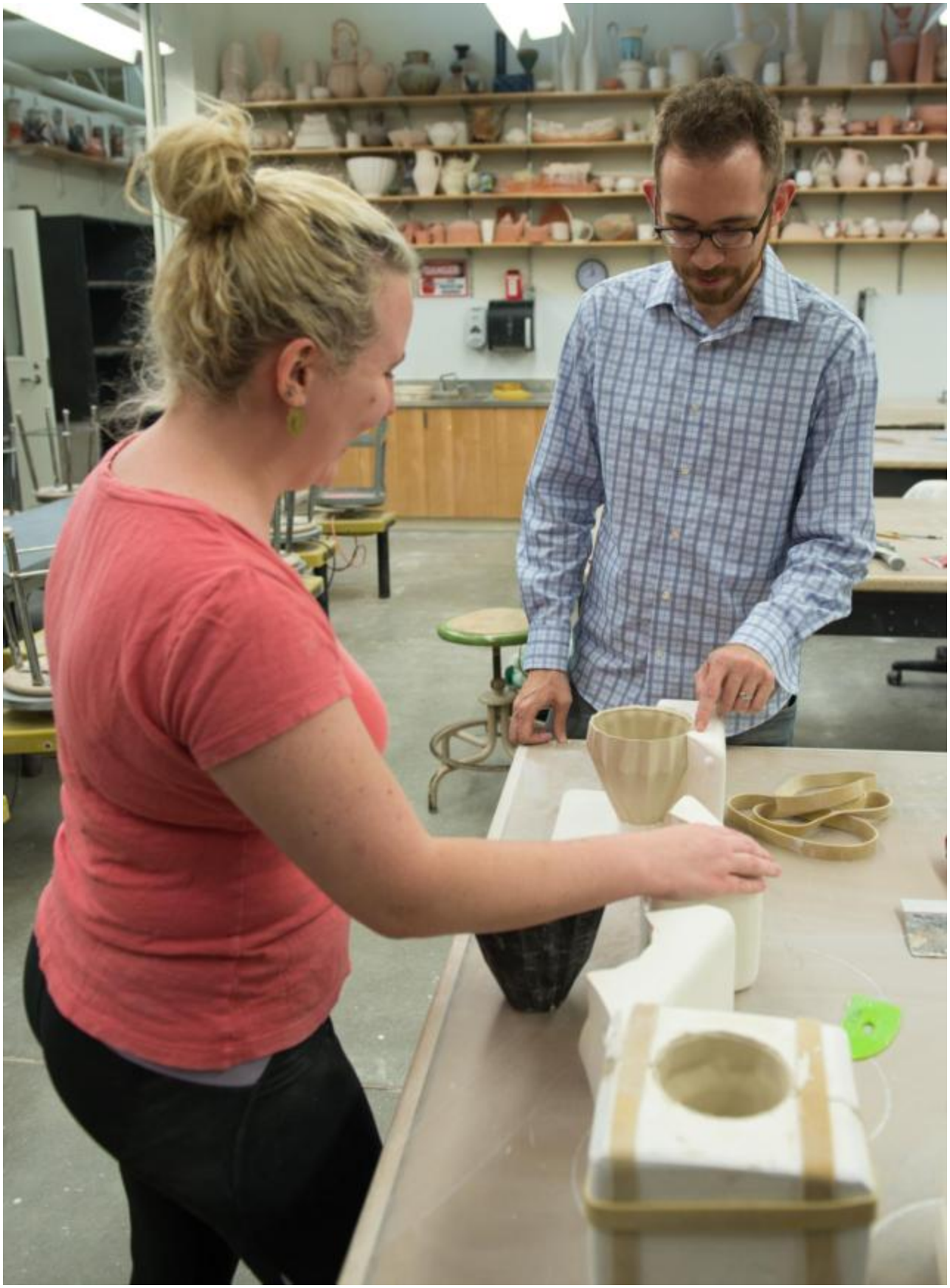

EDWARDSVILLE - Art students at **Southern Illinois University Edwardsville** are moving beyond the pottery wheel; and instead, producing ceramic objects with the click of a button. For the first time, the SIUE Department of Art and Design is incorporating the pioneering technology of 3D printing in a summer ceramicscourse.

“We’re training students to draw parallels between the use of technology and how it informs our physical human experience,” said class instructor Dr. Joe Page, assistant professor of ceramics in the SIUE Department of Art andDesign. “There’s a lot to be gained from switching back and forth between using your hand and other physical senses and then engaging with the fairly abstract concept of 3D rendering software.”

According to Page, students are designing plastic models that could only be created using digital modeling software, proving difficult or impossible to produce by traditional means. Students then make traditional plaster molds for clay slip casting from the 3D printed objects. The two class projects include making a functional cup, as well as a modular unit based either in sculpture or a wall tile that can connect to itself in a repeating pattern.

He describes the process in which a 3D printer creates an object similar to piping frosting from a bag.

“The material the machine uses is a plastic filament, which is essentially a spool of plastic wire,” Page explained. “The plastic is heated up and is pushed through what’s called an extruder. The extruder moves according to the digital wireframe model the student creates. It then builds the object layer by layer starting from the bottom.”

“It’s really just 2D printing over and over again,” he continued. “If you look closely at a printed object you can see each layer. It takes 500 or more layers to create one cup. A print that is about five inches tall takes about 12 hours to produce.”

As she touched up her clay cup, senior Madalyn Burroughs, of Pekin, shared her excitement about the use of this innovative technology at SIUE.

“It’s thrilling because you can create virtually any 3D object using the software and printer,” Burroughs said. “It brings art, and our art program, to a whole new level. I feel like we’ve just hit the surface of what 3D printing can do, and I’m eager to see it develop.”

The goal of the class is to encourage lateral thinking between digital and analog means of production, Page explained. The inclusion of this advanced software and technology is exemplifies SIUE’s commitment to providinghigh-quality learning and continuous improvement and innovation.

“3D printing is still emerging as a curricular tool,” said Page. “This class isn’t about gaining ultimate proficiency in the 3D printer, but about gaining a foothold to pursue it further, whether that means pursuing a career in digital fabrication, or simply applying the technology to further your artistic ideas.”

SIUE has three 3D printing labs, housed in Lovejoy Library, the Department of Art and Design and the SIUE School of Engineering. All of these printers produce objects using plastic. Even more advanced 3D printers throughout the world are now capable of printing in other materials like clay, metal and wax.

Central to SIUE’s exceptional and comprehensive education, the College of Arts and Sciences has 19 departments and 85 areas of study. More than 300 full-time faculty /instructors deliver classes to more than 8,000 undergraduate and graduate students. Faculty help students explore diverse ideas and experiences, while learning to think and live as fulfilled, productive members of the global community. Study abroad, service-learning, internships, and other experiential learning opportunities better prepare SIUE students not only to succeed in our region's workplaces, but also to become valuable leaders who make important contributions to our communities.