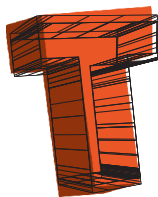




Designing for Industry CVPA's new Innovation Learning Collaborative



here is a third industrial revolution happening right now. It's 3D printing and it's transforming virtually every industry right before our eyes, from architecture to automotive to fashion, jewelry, eyewear, even food.

"Students need to know there is a paradigm shift that's changing how we relate to things, art, objects, even to nature, and that it offers an incredible opportunity to shape the world through their creative endeavors," said Professional Technician Shingo Furukawa, who is leading the efforts to create 3D digital fabrication studios at the CVPA Star Store. "CVPA is producing the next generation of artists and makers. It is extremely important to expose students to the available options."

Enter the Innovation Learning Collaborative

To train students in the job skills they'll need, the Innovation Learning Collaborative (ILC) at the Star Store campus opened in September 2015. The ILC builds on the

Hall-Hildreth IDEASstudio on the main campus, which has high-quality equipment and initiated 3D digital processes at UMass Dartmouth in Fall 2013. The IDEASstudio primarily serves students from Engineering and CVPA who want to produce 3D prototypes.

"I felt it was important to give support for setting up a second facility at the Star Store since many studios here emphasize fabricating with materials such as wood, metal, and ceramics," said Artisanry Professor Susan Hamlet. Last August, she donated \$11,000 to the ILC in her mother's name, Marion Hamlet. With the funds, CVPA purchased two laser-cutting machines and three 3D printers.

"The equipment I've donated to the ILC is modest with only small-scale capabilities," said Hamlet, "yet this does provide an initial learning experience for 3D digital design and being able to see results produced directly here."

From sketchpad to table

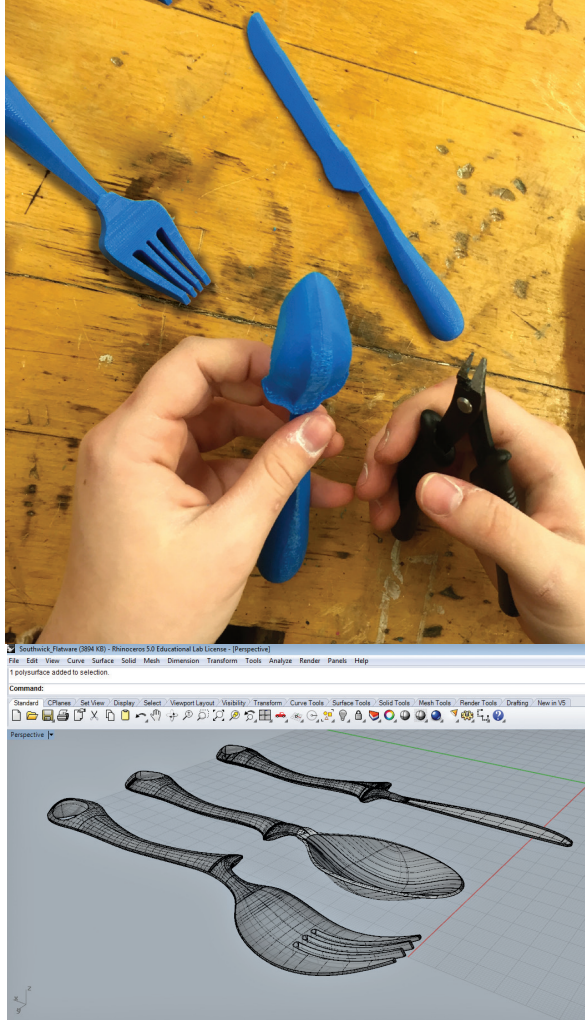
Students see their production results in Furukawa's Digital Fabrication class. They learn modeling and making in three

dimensions, design projects using the industry standard Rhinoceros modeling software, and learn basic techniques in Computer-Aided-Design (CAD) and Computer-Aided-Manufacturing (CAM).

In a slightly advanced CAD class this semester, students focus on the translation from the CAD model in the computer to an actual product that uses the 3D printers. At its most fundamental level, it's a drawing class, as students start their project from a sketch. On another level, it's a production class, and students manufacture their artwork, such as custom-designed flatware.

In a special projects class, a new 4' x 8' CNC router—a cutting machine controlled by computer—was used to generate the wood parts of six hand-weaving looms for the *Weaving with Light* exhibit selected for the SOFA CHICAGO Expo this past Fall. The router was co-funded by the College and Campus Master Planning/Capital Projects.

"Almost all the components in this installation were designed and mapped out on the computer using CAD software, and cut



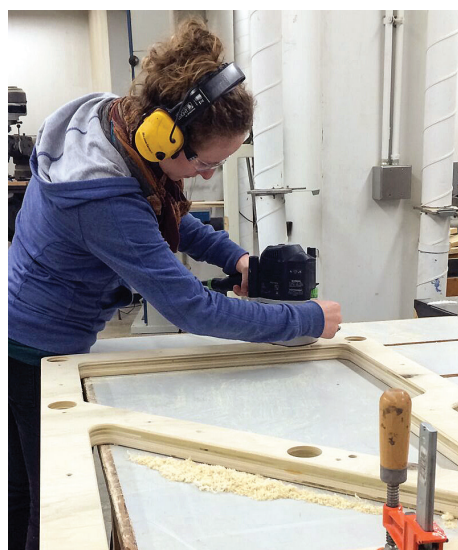
(Left) Professional Technician Shingo Furukawa demonstrates the new 3D resin printer to students in his Digital Fabrication class. (Above) Students produce flatware from initial design (bottom) to 3D production (top).

using the CNC router,” said Furukawa. “We use the new digital fabrication equipment as an extension of whatever other tools are already available, while teaching students different ways to approach design, production, and new possibilities. We encourage students to try new things out, fail, learn, and apply what they’ve learned. We encourage them to come and propose special projects that they couldn’t quite manage before without those tools.”

Absolutely essential technology

While Hamlet believes that continuing to make by hand is still significant and must continue, especially as students are losing contact with material ‘touch,’ she said the 3D digital technology fills many gaps. “It gives them the tools for making prototypes, and developing thinking for connecting with industry toward employment ahead. It’s the bridge between handmade, hand-designed, and machine-made with potential for industrial applications.”

Sherri Miles



Students use the new CNC router to build weaving looms for CVPA's booth at the SOFA CHICAGO Expo.

CVPA returns to prestigious SOFA CHICAGO art fair

For the second year in a row, UMass Dartmouth's College of Visual & Performing Arts (CVPA) faculty and students presented at SOFA CHICAGO, a premier art fair in Chicago dedicated to Sculpture, Objects, and Functional Art (SOFA). Held on November 5–8, 2015 at Chicago's landmark Navy Pier, UMass Dartmouth's installation once again paid tribute to the nearby city of New Bedford, this year with the exhibit *Weaving with Light*. The interactive exhibit reflects on New Bedford's textile industry and immerses visitors in the actual production of cloth. Several operational single-person looms are arranged in a

semicircle facing a wall. The warp yarns that feed each loom rise to a rattle gathering at the top and create the illusion of an enclosed space. Opposite the looms, vintage still photos of mill buildings, interiors, and workers are projected on the wall to illustrate some of the actual operations and conditions of historic mill life.

Students who worked on the installation include MFA Ceramics student Hanna Vogel, MFA Graphic Design student Kate Dickinson, MFA Wood/Furniture Design student John Middleton, MFA Digital Media student Alec Andersen, BFA Textile Design/Fiber Arts student Christopher Rodgers, and BFA Textile Design/Fiber Arts student Tony Beal. Artisanry Professor James Lawton was the faculty advisor to the group.

UMass Dartmouth was one of six entries selected for the art exhibition, including Illinois Institute of Technology, Pratt Institute, San Diego State University, University of Cincinnati, and University of Iowa. SOFA CHICAGO ranked #7 in the *USA Today* Reader's Choice 10 Best Art Events. During the past two decades, SOFA CHICAGO has grown to attract more than 35,000 visitors every year and exhibitors from the U.S. and around the world.