



Create Space tech Leon Hatcher demonstrates an Oculus Rift headset in the lab's "holodeck" room. PHOTO COURTESY OF BUTTE COLLEGE

Butte College's tricked-out new maker lab is ready

If you've been dreaming about that day when you could put your hands on the technologies you've seen in sci-fi movies, the future has arrived. The Create Space maker lab at Butte College might not have the jet packs we were promised (yet!), but it is filled with all manner of high-tech tools and toys that are just waiting to be used.

"Basically, I tried to get it to the point where anyone who comes in here, if they have an idea to do something, we have the equipment to do it," Manager Daniel

Donnelly said during a recent tour. As he walked the CN&R through the colorful, open, high-ceilinged room (plus adjacent enclosed outdoor area) in the main campus' ARTS building, he showed off the Create Space's dizzying array of gear.

Make it your space: Sign up for MSP 300, Butte College's Create Space class—a zero-unit open-entry course—at butte.edu/admissions. No registration fee. For more info, call admissions (895-2361) or the Multimedia Studies Program office (895-2404).

There are three kinds of lasers for engraving/cutting wood, glass, leather, etc.; a handful of CNC (computer numerical control) routers that can cut preprogrammed designs out of wood (guitars, table tops, sculptures, etc.); a Formech vacuum-former for making molds; a virtual-reality holodeck (with a couple dozen Oculus headsets to play with); and multiple 3-D printers, one of which was finishing up a three-day job of carving a replica of a massive gold nugget as we toured the lab.

The space has been open since the beginning of the 2018-19 school year, and as of this semester all of its toys are now available for use as two final, and very expensive, pieces of machinery just came online, including the impressive-looking ArcLight Pro 4800 (\$14,000). The large plasma cutter was installed in the outdoor area—where the bigger, louder machines are set up—and can cut a digitally programmed design out of a 4-foot-by-4-foot sheet of up to 26-gauge steel at a rate of 300 inches per minute.

"We just got this hooked up also," said Donnelly, pointing across the patio to a robot-looking machine called the Protomax (\$26,000). "This will cut up to [an inch thick] of steel. It will cut glass, it will cut ceramic.

It's a water-jet cutter, basically, and it uses the garnet [abrasive mineral] and the water to cut things out. ... There are only three maker spaces in California that have one—Berkeley, Folsom and then we have one."

The Butte maker lab is the culmination of a three-year CCC Maker initiative funded by the California Community College Chancellor's Office. In 2016, \$17 million was earmarked for creating a network of maker spaces at community colleges, and Butte was one of 23 to be awarded.

"We got \$500,000 over two years to build what you see here," Donnelly said. After their proposal was accepted, he spearheaded the design and construction of the lab—doing double duty managing Create Space while still working as both a digital-design instructor and chair of the Arts and Digital Art & Design departments. This past spring, the CCC Maker program named Butte's Create Space one of the top five in the state.

"It's so incredible. It's probably the most exciting thing I've ever dealt with," Donnelly said. "We're training students to actually do hands-on work now. ... The idea is to get students in, let them start actually creating things where it's not just a virtual thing on the computer."

In addition to creating and playing with the machines and toys, students also gain experience with equipment that's in use in the modern workplace, Donnelly said. For those who don't have design expertise, they can go "upstairs and [take] classes in our design program," he added, and those who already have experience are immediately able to realize their visions, many of them entrepreneurial.

"Students sold about \$400 worth of jewelry that they did off the laser-cutters last semester," Donnelly said.

The lab is currently not attached to any specific program, but any student can take the zero-unit MSP300 Maker course for access to it.

"[It's] a free class that anyone in the community or any student can sign up for," Donnelly said, pointing out that non-students just need to register with Butte (also free) to sign up for the course.

"Once they learn it, they can come in and just use it," Donnelly said. "It's really an amazing deal right now."

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