

Muscatine community leaders announce collaborative partnership to print 3D homes, Muscatine Community College to provide workforce training for exciting new initiative

Several local and state organizations, including Muscatine Community College (MCC), are working together to bring 3D-printed homes to Muscatine County.

With 62% of those employed in the City of Muscatine living elsewhere, according to 2019 U.S. Census Data, improving the housing stock is one of Muscatine's largest opportunities for improvement. A large shortage of affordable housing is burdening residents, increasing home and rental costs, and creating economic ripple effects in residents' lives.

Unlike traditional stick builds, 3D-printed homes can be completed in as little as three months because the base of the home is constructed in under 12 days using a 3D printer and concrete mix called "crete." With only three to four people needed to run the printer, this innovative technology significantly reduces labor costs as well, making it a possible solution to the housing shortage.

For MCC, the 3D-printed homes present an additional opportunity – a new industry in need of a trained workforce.

"Our role in this partnership will be to offer hands-on training for students in 3D printing technology, so that a trained workforce can be established for the local construction industry," said Naomi DeWinter, Muscatine Community College President.

The college will work with sub-contractor and Iowa-based company, Alquist 3D, to develop curriculum and identify the skills students need. Alquist is the first company in the United States to create an owner-occupied 3D-printed home.

"There's not a training program in America to teach people how to use this equipment today. That has to change, and I'm so thankful that MCC is going to partner with us to grow this program," said Zachary Mannheimer, Alquist Founder and CEO. "We need more people that understand how to use this equipment just for our team to be able to hire them. We've created a curriculum and are giving that program to MCC so they adapt it here at college. This is going to be a game changer."

With the college launching a Construction program in 2023, the timing could not be better.

"We will help our students learn and practice this cutting-edge technology both on-campus and on the job-site, and see our students helping to build and to finish future 3D-printed homes right here at home. This is innovation, hands-on training, and sustainability all in one," DeWinter said.

Adding another layer to the partnership, MCC has run a successful agriculture program for more than 50 years. When the Iowa legislation allowed for hemp to be grown by individual farmers a few years ago, MCC was the only community college in Iowa to embed these skills into the college's Agriculture program and offer a certificate in commercial hemp production.

"Going forward, we intend to add to the research in this field of how the addition of hemp fibers to the concrete-mix affect the strength and the environmental impact. It's our goal to collaborate with a local company to source concrete that will be used for training," DeWinter said.

"It's fantastic that we can grow anything here in our state," said Mannheimer. "We think that's going to reduce not just the cost of the material, but make it stronger, and we can have something that's not just carbon neutral, but carbon negative."

For more information, visit givinggreater.org/housing