

NTU Receives Funding for Center for Advanced Manufacturing



Advanced manufacturing major Aaron Sansosie of Nazlini, Arizona, operates machinery in NTU's Center for Digital Technologies. Student research projects will increase with the construction of the Center for Advanced Manufacturing.

Navajo Technical University (NTU) was awarded a \$3.5 million grant from the National Science Foundation (NSF) to establish the NTU Center for Advanced Manufacturing. The funding ensures a solid foundation for the center's future, whose focus will include enhancing education, fostering research, and stimulating economic development.

"The goal for the center is to provide opportunities for students so they can learn and gain experience in a working environment," explains H. Scott Halliday, director of NTU's Center for Digital Technologies and one of the architects of NTU's Bachelor of Applied Science degree in advanced manufacturing. "We also plan to elevate the center's research capabilities, and provide metrology and testing services to industry and other institutions."

Halliday expects the center will appeal to visiting researchers, which he hopes will lead to an increase in NTU's academic partners. Several universities have already made a commitment to collaborate with NTU, including the University of Nebraska's Mechanical and Materials Engineering Department; the University of Utah's Multiscale Mechanics and Materials Laboratory; the Colorado School of Mines; and Montana Technological University. The center has also collaborated with the University of New Mexico's Indigenous Design and Planning Institute through NTU's Building Information Modeling Program.

NTU's new center will emphasize 3D modeling and simulation, polymer and metal additive manufacturing, and advanced manufacturing post-processing techniques, but it will also focus on materials testing and characterization, and metrology, or the science of measurement. The U.S. Department of Commerce awarded NTU a \$1 million grant with matching funds of \$1.5 million from the Navajo Nation to build a metrology and materials testing center within the Center for Advanced Manufacturing, which Halliday plans to make a certifiable lab to assist in student learning.

NTU hopes that the Navajo Nation Division of Economic Development's commitment of \$1.5 million for the center will generate 500 high-tech, high-wage jobs in partnership with industries like Boeing Corporation's Metal AM Technologies in El Segundo, California. NTU is also looking to partner with companies such as Sigma Labs, LLC in Santa Fe, New Mexico; Optomec, LLC in Albuquerque, New Mexico; and V&M Global Solutions, LLC in Ojo Caliente, New Mexico.



With the funding secured, NTU has started the process for a new advanced manufacturing building. NTU plans to break ground in early spring 2019 with the hopes that the center will be functional by the end of the year. In addition to contributing a new building for the center, the NSF funding will assist with the development of a new certificate, an Associate of Applied Science degree, and a baccalaureate degree in mechanical engineering.