Advanced Manufacturing Capabilities

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“Endless Possibility”
PAVING A PATH TOWARD SELF-EMPOWERMENT

Student

Nation

Community
BECOMING THE NAVAJO NATION’S FIRST UNIVERSITY

- NTU became a university in 2013, specializing in Science, Technology, Engineering, and Math, as well as vocational/technical programs.

- NTU offers a M.A. degree in Diné Culture, Language & Leadership and will be soon applying for accreditation with the Higher Learning Commission for a Ph.D. program.

- Will also apply for a MS in Management Information Systems with the HLC.
  - NC-SARA member
  - Only institution to currently meet new federal regulations
FOCUSING EFFORTS ON ACADEMIC EXCELLENCE

• NTU currently offers 23 certificate programs, 20 associate degrees, 11 baccalaureate degrees, and 1 graduate degree.
• It’s NTU’s responsibility to provide value to the communities we serve through:
  • Research
  • Community engagement
  • Service learning
  • Activities designed to foster cultural preservation
• NTU’s recent focus has been on high quality STEM programs, and curriculum with two foci:
  • Economic development
  • Meeting the specific needs of the Diné people.
OBTAINING NATIONAL ACCREDITATIONS

• The National Center for Construction Education Research accredits NTU’s Construction Technology and Electrical Trades programs, whereas Welding students are able to earn certification through the American Welding Society.

• NTU’s Culinary Arts and Commercial Baking programs are accredited by the world’s largest chef’s association, the American Culinary Federation.

• The American Veterinary Medical Association recently accredited NTU’s Veterinary Technician program, expanding career opportunities for graduates.

• NTU’s Electrical Engineering and Industrial Engineering programs received ABET accreditation in 2018, becoming the first TCU to hold such accreditation in the nation.
WET LABS AND CLASSROOM SPACE

- State-of-the-art chemistry and biology labs in Crownpoint that are designed for education and research purposes.
- This is an economic development effort since the lab will be selling a variety of advanced EPA certified services.
ACADEMIC BUILDING
(30,000 sq. ft.)

- Architectural design and engineering work has been completed for a new academic building to be located where modular classrooms are located.
- Anticipated completion date: 5/31/20
METROLOGY & MATERIALS TESTING BUILDING

• Metrology building is designed to be a lab for metrology research and education. Total cost is $2.5 million.

• The building will supplement the work of NTU’s Center for Digital Technologies by providing technologies and equipment that are essential to contemporary quality assurance and control in a wide range of manufacturing, structural and materials analysis, and measurements.

• The Navajo Nation has provided $1.5 million from Navajo Nation Economic Development, and the U.S. Economic Development Administration has awarded another $1 million for construction.

• Anticipated completion date: 3/20
ELECTRICAL ENGINEERING

• Concentrations:
  • Computer Engineering
  • Electrical Power & Energy

• Research Areas
  • Drones/Rovers Design & Test
  • Sensors and Instrumentation
  • Micro Grid Technology
  • Solar Vehicle Design
METROLOGY

• Coordinate Measurement Machines
  • Hexagon Metrology
  • FaroArm w/Laser Attachment
  • Faro Tracker
  • Quest 650 Multisensor

• CT Scanner
  • North Star Imaging 3000
  • Dual Head Sub Micron Resolution

• White Light Scanner
  • HDI
  • ATOS 3M
Material Testing & Characterization

• Specimen Preparation
  • Cut-off Saw
  • Mounting Press
  • Multi-specimen Polisher

• Microscopy
  • Keyence VHX6000 3D Microscope
  • JEOL SEM

• Testing Equipment
  • Instron Tensile/Compression
  • Instron Dynamic Tester
Manufacturing
Additive Manufacturing

• Polymer AM
  • Projet 3600
  • Objet 30Prime
  • MarkForged (2)
  • Makerbot (5)

• Optomec MTS 500
  • Direct Energy Deposition (DED)
  • Hybrid (Machining Capabilities)
Manufacturing
Subtractive Manufacturing

- CNC Mill
- CNC Lathe
- CNC Horizontal Band Saw
- Electric Discharge Machining (EDM)
STUDENT HOUSING
(90,000 sq. ft.)

- Three story, 277 bed dorm has been achieved. The Navajo Housing Authority contribution of $9.3 million has been approved.
- The Navajo Nation has approved $14.3 million from the Sihasin fund.
- Awaiting business site lease with Navajo Nation
- Anticipated completion date: 7/22
QUESTIONS

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