



# ENDLESS POSSIBILITY. 2019 ANNUAL REPORT

TEEC NOS POS, AZ

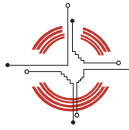
CHINLE, AZ

CROWNPOINT, NM

KIRTLAND, NM

ZUNI, NM

[www.navajotech.edu](http://www.navajotech.edu)



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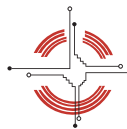
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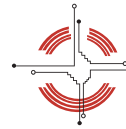


## BOARD OF REGENTS



(l-r): Delores Greyeyes, Carolyn Morris, Gloria Grant, Roselyn John, and Tom Platero.

- Tom Platero, *Chairperson*
- Delores Greyeyes, Ph.D., *Vice Chairperson*
- Carolyn Morris, Ph.D., *Secretary/Treasurer*
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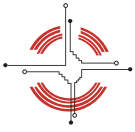


## STUDENT SENATE



(l-r): IT majors Ashton Brown, Nylana Murphy, Deirdra Deswood, and Wanda Jimmie.

- Deirdra Deswood, *President*
- Nylana Murphy, *Vice President*
- Wanda Jimmie, *Secretary*
- Ashton Brown, *Treasurer*
- Chelsie Whitewater, *Master-of-Arms*



## DINÉ PHILOSOPHY OF EDUCATION

### Sih Hasin

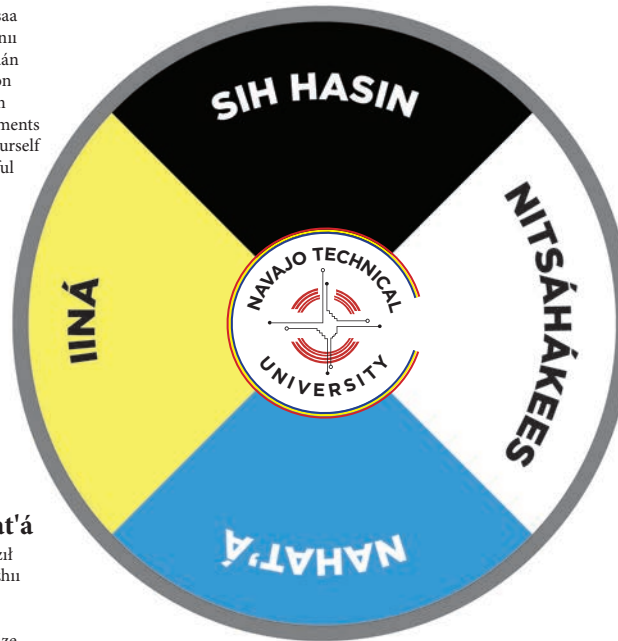
Dibé Nitsaa  
 Bááshzhini  
 Nahasdzáán  
 Reflection  
 Wisdom  
 Accomplishments  
 Actualize yourself  
 Be hopeful

### Iiná

Dook'o'ostíid  
 Duchíí  
 Ko'  
 Implement  
 Bring to life  
 Take responsibility  
 Respect  
 Values  
 Nurture  
 Collaborate with others  
 Learn cooperatively

### Nahat'á

Tsoodzil  
 Doot'izhni  
 Tó  
 Plan  
 Strategize  
 Rely on yourself  
 Be prepared  
 Be motivated

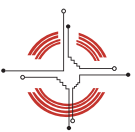


### Nitsáhákees

Sisnaajini  
 Yoolgai  
 Níich'i  
 Think: use your intellect  
 Believe in yourself  
 Imagination  
 Critical Thinking  
 Challenge

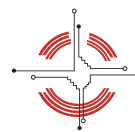
The foundation of NTU's identity as a tribal college and university is rooted in the Diné Philosophy of Education. DPE is a cyclical model of learning and evaluation that involves an intimate process of thinking, planning, implementing, and reflection. DPE represents harmony and growth that results from careful thought and assessment. The philosophy is also a guide that can be used on a day-to-day, minute-by-minute basis that allows one to live a balanced life into old age. DPE is required on every course syllabus at NTU, and is used as a tool to relate course concepts with traditional Diné way of thought.

The DPE model was used in structuring NTU's annual report and can be a tool to help navigate the content. The first section of the report relates to "thinking" about NTU and gets into the university's history and enrollment and graduation data. The second section details the programs that are in place to help "plan" student success efforts, while the third section details what has resulted as the efforts have been "implemented." The final section of the report "reflects" on student accomplishments as well as NTU's financial highlights.



## MISSION

Navajo Technical University's mission is to provide university readiness programs, certificates, associate, baccalaureate, and graduate degrees. Students, faculty, and staff will provide value to the Diné community through research, community engagement, service learning, and activities designed to foster cultural and environmental preservation and sustainable economic development. The University is committed to a high quality, student-oriented, hands-on learning environment based on the Diné cultural principles: Nitsáhákees, Nahat'á, Iiná, Siihasin.



## PHILOSOPHY

Navajo Technical University believes that every student has the innate ability and intelligence to learn and acquire technical skills. Students have knowledge about their abilities and skills to enhance their personal, social, economic and cultural values. A disciplined learning environment, with innovative and viable community-based academic and vocational curricula, will produce a competent, educated, and self-reliant participant of the Navajo Nation in the world of work.



## UNDERSTANDING THE CONCEPT OF ENDLESS POSSIBILITY.

Navajo Technical University has long used “Endless Possibility” as a phrase to describe its heart and spirit. The phrase does not mean “endless possibilities,” or an infinite amount of outcomes. Rather, NTU, which has become one of the premier higher education institutions in the Southwest, gives each student the possibility of achieving their dreams. In the process, as they achieve their dreams, they are making possible a future for both their families and the Navajo Nation that has arisen out of struggle. The Navajo people are only decades removed from when generations were forced into boarding schools and discouraged from speaking their language and practicing their culture. Now NTU is working with students, families, the Navajo Nation, and the living culture and language of the Dinè as part of Navajo’s vibrant emergence into the modern world.

NTU, then known as the Navajo Skills Center, originally served as a means to putting an unemployed population to work by equipping students with the skills necessary to obtain a career. The education programs provided emphasized quick training that allowed men and women to earn certifications to work. More importantly, it provided a means to put food on the table for many families.



Over the next forty years, the Skills Center expanded its mission and went through several transitions: from the Navajo Skills Center to the Crownpoint Institute of Technology in 1985, to Navajo Technical College in 2006, and then to Navajo Technical University in 2013. Each transition brought unique opportunities to students, as NTU made an effort to expand its academic programs while extending its reach into what is now five locations: Crownpoint, Kirtland, and Zuni, NM and Chinle and Teec Nos Pos, AZ.

Students come into Navajo Technical University having a simple idea of what they'd like to achieve, whether that's the possibility of being able to provide for a family or simply gaining valuable skills and knowledge. But over the course of their time at NTU, whether it's through a unique internship experience or meeting an inspirational faculty member, that idea of what's possible changes and the universe expands for our students. They begin to see that they, and their Nation, can achieve more than they ever dreamed possible before they sat in their first class on their first day.

This is the heart of the phrase "Endless Possibility." Navajo, Zuni, and Indigenous students, through higher education, rethink about what is possible in their lives and then start working toward a future that is better than what they imagined. Then their efforts benefit both their families and their tribal nations, giving those nations a future that, as their populations become educated, becomes increasingly possible.

## NAVAJO TECHNICAL UNIVERSITY DEGREES AND CERTIFICATES

### MASTER OF ARTS:

- Diné Culture, Language, and Leadership

### BACHELOR OF ARTS:

- Diné Culture, Language, and Leadership
- Business Administration

### BACHELOR OF APPLIED SCIENCE:

- Information Technology
- Advanced Manufacturing Technology
- Information Technology - New Media

### BACHELOR OF FINE ARTS:

- Creative Writing and New Media

### BACHELOR OF SCIENCE:

- Animal Science
- Biology
- Electrical Engineering (ABET accredited)
- Early Childhood Multicultural Education
- Environmental Science & Natural Resources
- Industrial Engineering (ABET accredited)

### ASSOCIATE OF APPLIED SCIENCE:

- Accounting
- Administrative Office Specialist
- Automotive Technology
- Building Information Modeling
- Chemical Engineering Technology
- Construction Technology
- Culinary Arts (ACF certified)
- Energy Systems
- Engineering Technology
- Environmental Science & Natural Resources
- Geographic Information Technology
- IT Technician
- Law Advocate
- Professional Baking (ACF certified)
- Public Administration
- Veterinary Technician (AVMA accredited)

### ASSOCIATE OF ARTS:

- Counseling
- General Studies

### ASSOCIATE OF SCIENCE:

- Early Childhood Multicultural Education
- Mathematics

### VOCATIONAL/TECHNICAL CERTIFICATES:

- Administrative Office Specialist
- Automotive Technology
- Bookkeeping
- Commercial Driver License
- Computer Science
- Construction Technology
- Counseling
- Culinary Arts
- Electrical Trades
- Environmental Science & Natural Resources
- Geographical Information Technology
- Industrial Maintenance and Operations
- Information Technology Assistant
- Law Enforcement
- Legal Assistant
- Mathematics

### NTU IS ACCREDITED WITH THE HIGHER LEARNING COMMISSION.

#### SPECIAL ACCREDITATIONS WITH:



Commercial Baking, Culinary Arts



Electrical Engineering, Industrial Engineering

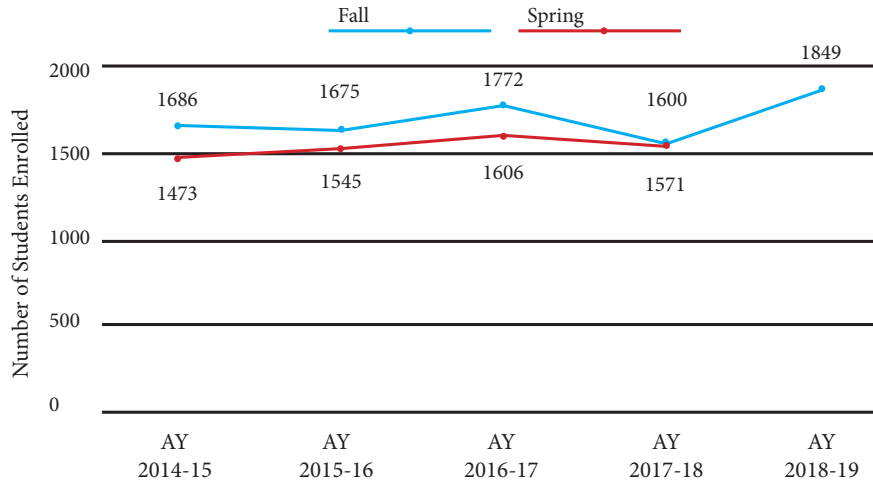


Carpentry, Construction Technology, Electrical Trades and Welding

- Navajo Court Transcription
- Pre Engineering
- Plumbing
- Pre Nursing
- Professional Baking
- Textile Weaving
- Welding

For more information about Navajo Technical University's academic programs, visit our website at [www.navajotech.edu](http://www.navajotech.edu).

## Navajo Technical University Headcount Enrollment Trend, AY 15/16 - Fall 2019



AY= Academic Year (fall and spring semesters)

## ENROLLMENT REMAINS STABLE WITH SIGNS OF FUTURE GROWTH

Enrollment has remained stable over the past five years; however, there are signs of growth. In the fall NTU enrolled 1,849 students, the third largest enrollment in the university’s history. Efforts were focused on retaining students, and several programs continued into the year to help students at risk of attrition. These programs included a paid internship program, emergency aid, a summer tuition waiver for developmental education courses, and a student completion program where students could work off their debt. NTU also dedicated resources to expanding our dual credit program in order to impact college readiness. Such efforts have attributed to our stable enrollment, which is a regional anomaly while enrollment at colleges and universities declines throughout the nation. NTU has implemented this approach in hopes of providing sustainable solutions to long-term efforts.

## MA PROGRAM ENROLLMENT INCREASE



NTU’s Master of Arts (MA) program in Diné Culture, Language, and Leadership has seen a tremendous increase in 2019. The Fall’s enrollment tripled the previous Fall 2018 enrollment in the program with 39% of the students continuing their education after receiving a degree from NTU. Students have also enrolled in the program after receiving degrees from University of New Mexico, Arizona State University, Diné College, Northern Arizona University, and other notable colleges and universities. Of the entire graduate school population, 61% have come from New Mexico and 39% from Arizona.

### Enrollment by Degree Level

Degree Level	# of Students	Average Age of Students
Associate	464	28
Bachelor	341	33
Certificate	377	26
Dual Credit	614	17
MA Graduate	18	48
Non-Major	35	44

### Programs with the Highest Enrollment By Degree Level

<b>Associate Programs:</b>		<b>#</b>
Construction Technology		62
Administrative Office Specialist		53
Early Childhood Multicultural Education		47
General Studies		47
<b>Bachelor Programs:</b>		<b>#</b>
Early Childhood Multicultural Education		91
Business Administration		69
Information Technology		51
<b>Certificate Programs:</b>		<b>#</b>
Pre-Nursing		132
Welding		77
Administrative Office Specialist		34



# 1,344

DEGREES CONFERRED SINCE 2015

# 11%

BACHELOR'S DEGREE  
147 degrees

# 30%

ASSOCIATE'S DEGREE  
406 degrees

# 59%

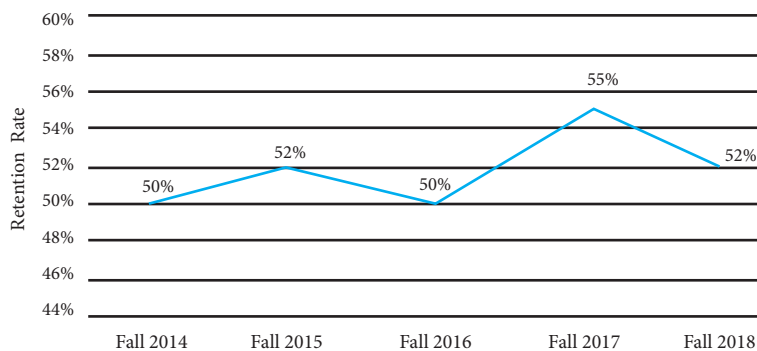
TECHNICAL CERTIFICATE  
791 certificates

# 193

DEGREES CONFERRED IN 2019

## WORKING TO IMPROVE RETENTION RATES

Retention of First-Time, Degree-Seeking Students  
at Navajo Technical University, 2014-2018

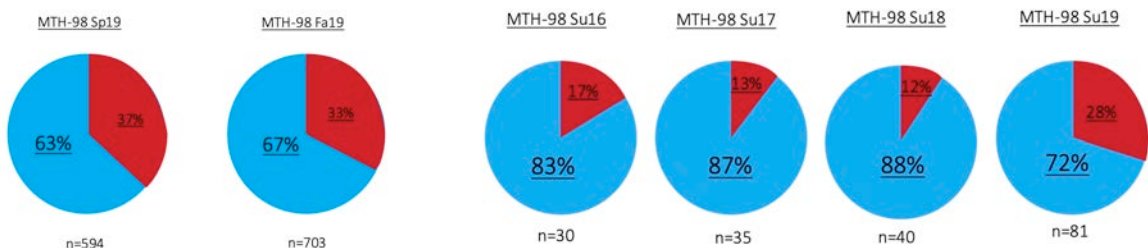


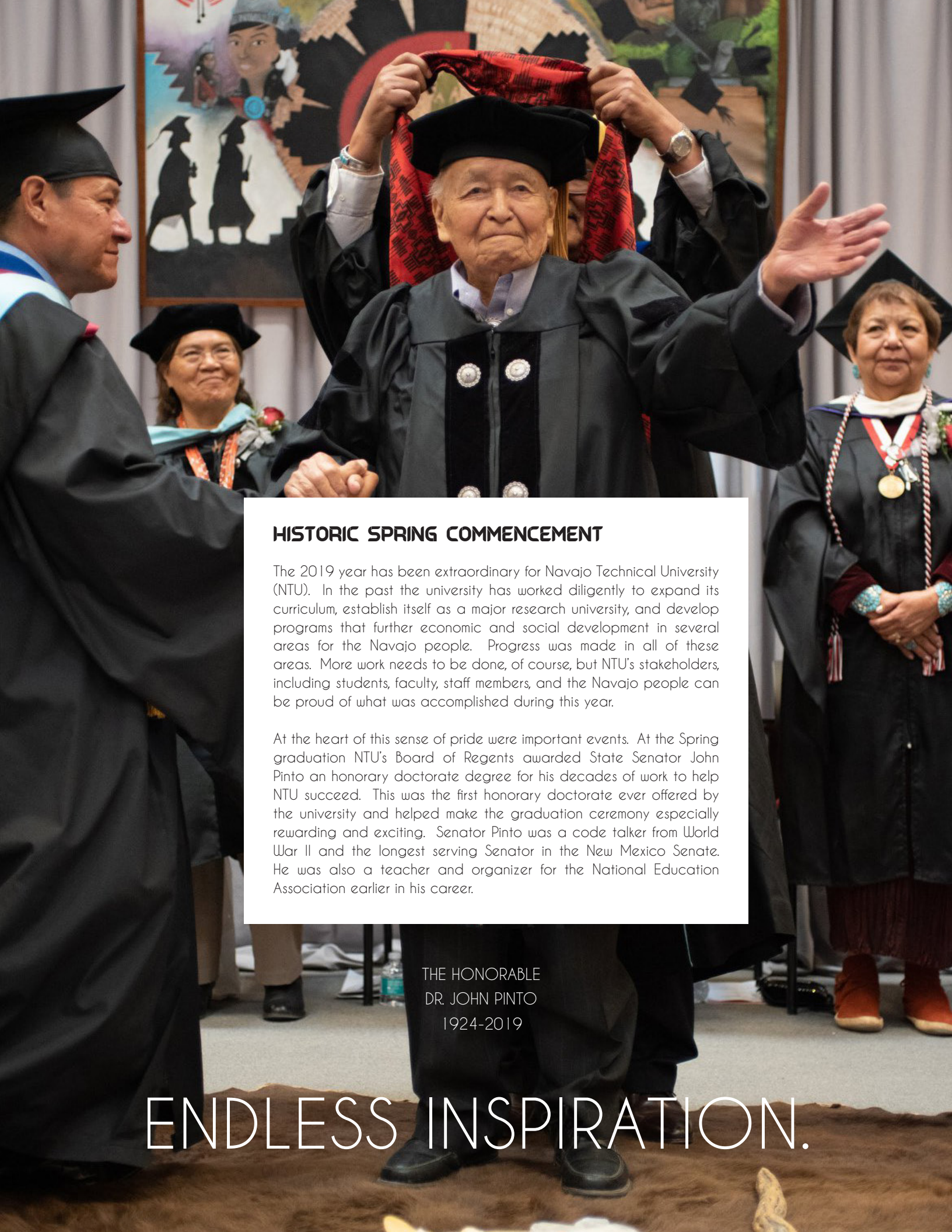
Retention is one of NTU's greatest challenges operating as a tribal university since our student population faces challenges associated with operating in a rural environment. Strategies have been implemented to address the situation long-term, such as developing a robust dual credit program, but short-term strategies like waiving tuition for developmental education programs have been effective stabilized retention rates.

## TUITION WAIVER COURSE COMPLETION CASE STUDY

General Math 98 Courses

Tuition Waiver Courses





## HISTORIC SPRING COMMENCEMENT

The 2019 year has been extraordinary for Navajo Technical University (NTU). In the past the university has worked diligently to expand its curriculum, establish itself as a major research university, and develop programs that further economic and social development in several areas for the Navajo people. Progress was made in all of these areas. More work needs to be done, of course, but NTU's stakeholders, including students, faculty, staff members, and the Navajo people can be proud of what was accomplished during this year.

At the heart of this sense of pride were important events. At the Spring graduation NTU's Board of Regents awarded State Senator John Pinto an honorary doctorate degree for his decades of work to help NTU succeed. This was the first honorary doctorate ever offered by the university and helped make the graduation ceremony especially rewarding and exciting. Senator Pinto was a code talker from World War II and the longest serving Senator in the New Mexico Senate. He was also a teacher and organizer for the National Education Association earlier in his career.

THE HONORABLE  
DR. JOHN PINTO  
1924-2019

ENDLESS INSPIRATION.



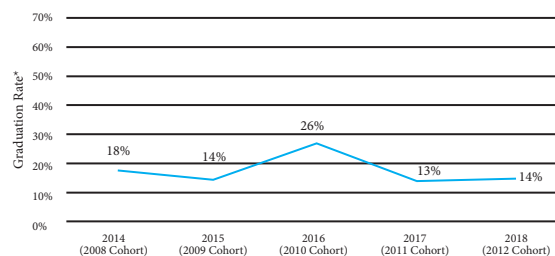
## STUDENT OF THE YEAR

Electrical engineering major Darrick Lee (pictured below) was recognized at the American Indian College Fund's awards banquet on March 17, 2019 in Billings, MT as NTU's Student of the Year. Lee was selected as Student of the Year after a rigorous nomination process that evaluated academic achievement and volunteer service to the community. "Mr. Lee is an exceptional student on many levels, and we are proud to have him representing NTU as the Student of the Year," said NTU President Dr. Elmer J. Guy. "His commitment to completing our Electrical Engineering program has been outstanding as he has made the Dean's and President's list numerous times. Darrick is deserving of this distinguished honor for TCU students."

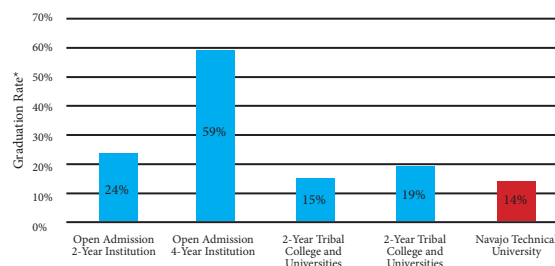
Lee served in the U.S. Marine Corps as a journeyman electrician, which led him to NTU to continue his interest in the electrical field. Since enrolling in 2013, Lee has earned a certificate in Electrical Trades, an Associate of Applied Science in Energy Systems, and an Associate of Science in Mathematics. Lee's research area is in solar powered micro grids, which has led him to develop a test system for his senior capstone project that has the potential of being implemented on the Navajo Nation. He has presented his research at international power and energy conferences at Georgia Tech and the University of Illinois Urbana Champagne, as well as at NTU's 7th Annual Research Day. In his free time, Lee volunteers as an animal rescuer and advocate at Soul Dog Rescue, Compassion Corner, and the Blackhat Humane Society, and he has fostered several animals. This spring break, Lee will put his education to use and will serve as a team lead for a community solar project with the Colorado-based company Grid Alternatives to install solar panels on houses in Ojo Encino, NM.



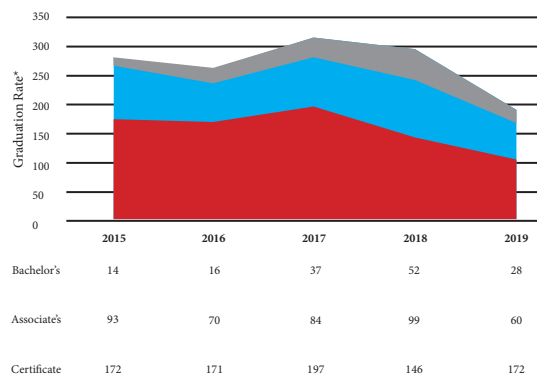
Navajo Technical University's Graduation Rate, 2014-2018  
First Time Enrolled Students



Graduation Rates Compared to National Averages



Degrees Conferred, 2015-2019



## ADDITIONAL HIGHLIGHTS

Another notable individual at Spring graduation was Winona LaDuke, an Anishinabe environmentalist, economist, and writer who was once the Vice Presidential candidate for the Green Party when Ralph Nader ran for President. As the Commencement Speaker, LaDuke reflected on the transition that the Navajo Nation is facing as coal and other fossil fuels confront the challenges presented by climate change. She called on the graduates to lead the change, calling for a rebuild of the Nation's energy economy with solar and wind projects.

"Your nation will be a leader in this. I see this and know this. We are all counting on you to do the right thing," LaDuke said.

Over 140 students graduated at the spring commencement, twenty-three earning a baccalaureate degree. The graduating class was addressed by Navajo Nation President Jonathan Nez.

## INVESTING IN DUAL CREDIT TO IMPROVE COLLEGE READINESS

The Dual Credit program continues to strengthen semester after semester. Dual Credit students are high school students enrolled at their high school in NTU for-credit courses that also count toward high school graduation. The program was originally designed as a tool to allow NTU to work with high schools in New Mexico, Arizona, and Utah in order to encourage their students to look beyond high school graduation to college while still attending high school. This strategy would, NTU hoped, improve high school student self-concepts and encourage them to improve their high school performance while giving them a head start on a college degree.

One of the secrets imbedded in the program is that especially ambitious students can even earn a certificate or associate degree, through a program called Pathways, with their high school diploma if they work with NTU enrollment personnel to achieve that goal. In addition to the dual credit program NTU continued to develop innovative Summer Skills/STEM programs. Such programs as the First Annual Solar Car Race Exhibition where students raced cars they had equipped with solar power and summer programs at the NTU Veterinary Teaching Hospital have some of the same goals of the dual credit programs by encouraging students from both middle and high schools to seize their future through academic efforts.

At the beginning of the decade approximately 80 percent of students entering NTU required developmental education coursework. As a result, NTU made it a priority to develop a robust dual credit program that would prepare students for the rigor of higher education. NTU has agreements with 23 schools across New Mexico and Arizona, and is in partnership with the Central Consolidated School District (CCSD) in operating the Bond Wilson Technical Education site, an early college readiness academy where students have an opportunity to earn an associate degree by the time they graduate high school. Today, approximately 43% of first-time enrolled students require development math and 57% requiring developmental English.

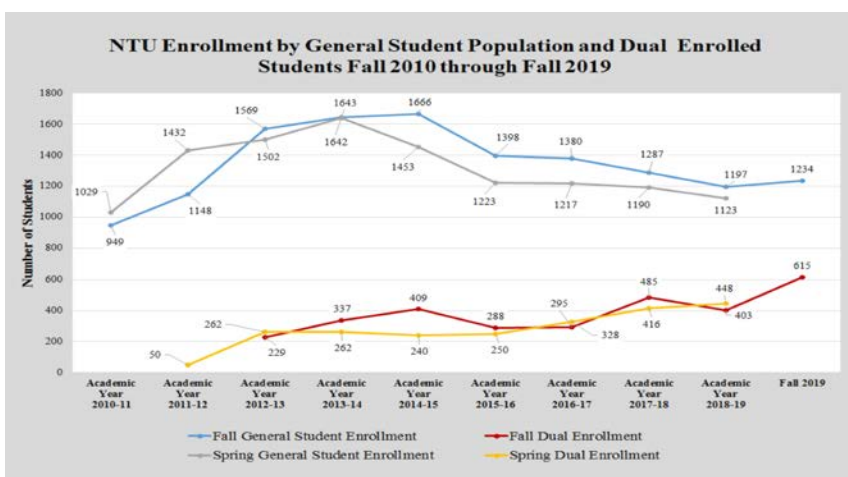


## SUMMER SKILLS STEM PROGRAM

The NTU Pathways to STEM Career Project (pictured above) was given an award by the National Science Foundation in 2015. The 5-year project was designed to address college readiness and interest in STEM career paths through development of a Pre-Engineering Certificate that could be delivered by e-learning methodologies to high school dual credit and traditional college students utilizing hands-on project-based-learning incorporating Native-Ways-of-Knowing, such as the Dine' Philosophy of Education.

NTU offered the 1st NTU Summer STEM & Skills Career Readiness Program in summer 2018 with approximately 50 students from Wingate High School and Many Farms High School. Courses were offered in Welding, Construction, Engineering Graphics and Culinary.

The program was improved and expanded in summer 2019 to include courses in Business and Computer Programming. Half of the students lived on campus during the program and were able to take up to 9-credits worth of college courses. The program concluded with a maker fair where parents were able to see that projects made by every student in every course. The 2020 Summer STEM & Skills Program will see the inclusion of the Auto Tech and Commercial Driving programs. The summer programs have been made possible from the funding provided by NSF and the Department of Transportation.



*A large contribution to NTU's enrollment over the last several years has been participation in NTU's dual credit program. NTU has invested resources in dual credit in order to positively impact college readiness.*



NTU's 2019 Summer Skills STEM program had students from Many Farms High and Wingate High construct solar go-karts. At the conclusion of the program, the students raced their creations at Crownpoint High School.

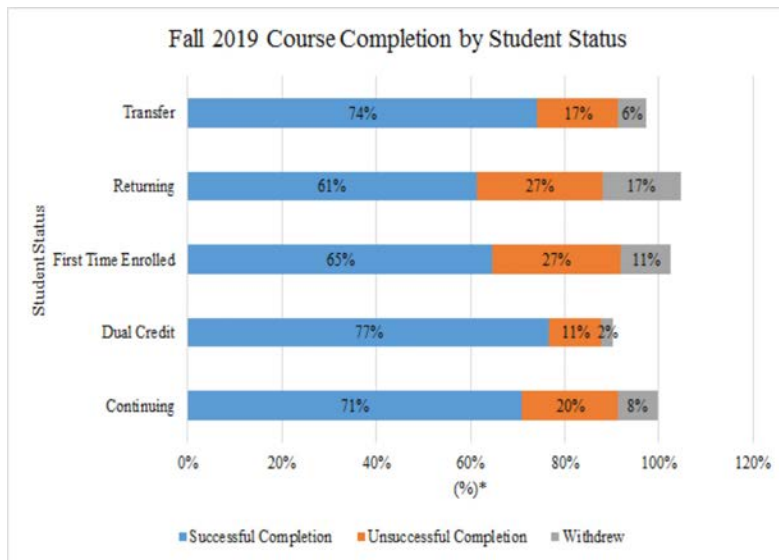
## STUDENT SPOTLIGHT: JAROD REIDHEAD

Jarod Reidhead, a high school junior at Crownpoint High School, is attending Navajo Technical University's main campus through the Gallup McKinley Academy and is on track to earn an Associate of Arts degree in General Studies when he obtains his high school diploma in 2021.

"Attending college at NTU is a great experience for me as a high school student. I'm planning on getting an associate degree so that I am two years ahead when I get out of high school," said Reidhead in discussing his goal of becoming an anesthesiologist. "[Anesthesiology] is going to require a lot of schooling and two years under my belt is going to help me out a lot, especially with the cost."

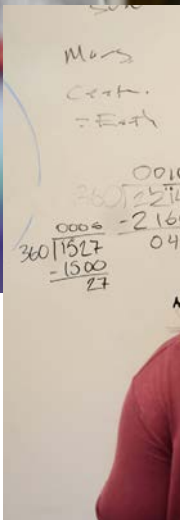
Reidhead took 13 credit hours in the fall semester, qualifying him as a full-time student. His schedule consists of two online courses in English 110 and History 211, as well as two face-to-face courses in Math 123 and Navajo 211. Reidhead didn't attend any classes at Crownpoint High during the semester, but he was required to pass his college courses with a grade of a C or better in order to earn the credits toward his degree and diploma. Reidhead has not yet selected a college or university he would like to attend to pursue his career goals, but he is intent on keeping his options open.

NTU currently has 634 students enrolled in dual credit courses, nearly 200 more students from the previous fall semester. Of the 634 students, 418 reside in New Mexico representing 18 different high schools. In Arizona, 216 are enrolled in dual credit courses representing eight different schools. In addition to the 26 high schools where NTU currently has an articulation agreement in place, NTU is also working on developing partnerships with Rehoboth Christian High School in New Mexico and St. Michael's High School in Arizona.



Dual credit students completed their course 77% of the time as compared to 71% of continuing students. If NTU can retain its dual credit students once they earn their diploma, chances of improving course completion of first time enrolled students increases tremendously. More work needs to be done to improve course completion rates for transfer and returning students.





## DEVELOPING AN EARLY INTEREST IN STEM

Middle school students have also been a focus of NTU's efforts as it has attempted to build interest in math and science at an early age. Every year NTU hosts a 3D printing camp for regional schools, which is incorporated into a year-long Innoventure Product Challenge competition that tasks students to design a 3D printed toy for Navajo Head Start. Last year, NTU launched the inaugural Robotics Academy in collaboration with NASA to engage students in hands-on robotic activities. It also welcomed the renowned Navajo Math Circles program, which is geared for grades 6-12 and integrates Navajo knowledge and thinking into math.

In the Academy students were provided with advanced classes in aerospace manufacturing, unmanned aircraft systems, conceptual design and planning, and employee skills. The experiential learning robotics syllabus was designed to especially be respectful to traditional Navajo culture and serve as a template for other TCUs.



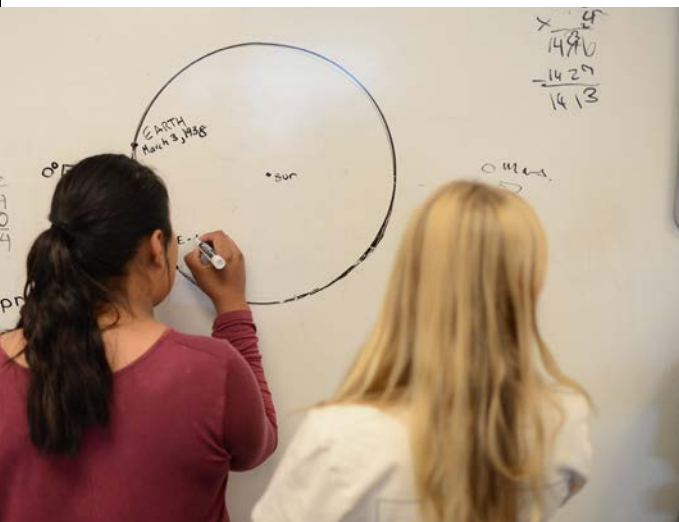
NASA Days was a two-day event in the fall that included a K-12 teacher professional development training and an open expo for students to experience STEM activities and demonstrations. The training focused on NASA STEM curricula and hands on activities, while the expo featured activities such as a scientist panel discussion, interactive STEM demonstrations, and a resource fair and information tables.

## SUMMER PROGRAMS INFUSED WITH NAVAJO PERSPECTIVE

Navajo Technical University's Diné Studies program brought together students and community members by hosting distinct summer programs that infused math and language instruction with Navajo perspective. The programs included a Navajo Circles camp for youth grades 6-12, and a Navajo Language Academy (NLA) for academics and language enthusiasts. This was the first time NTU hosted the eight-year old Nation Math Circles camp and the seventh year hosting the NLA.

"We are the only Math Circles in the U.S. that integrates Navajo knowledge and thinking. It helps our students to gain more while learning about Navajo culture," said Dr. Henry Fowler, Dean of Diné Studies at NTU. "We also have the Navajo Language Academy at NTU for our undergraduate and graduate students in the Diné Studies program to participate with long-time instructors of the Navajo language."

The Navajo Math Circles camp has been in operation for eight years, but made its first appearance in Crownpoint this past summer. The camp ran from June 10-21, 2019, and had 42 student participants and six teachers from regional middle schools and high schools. The intent of the camp was to improve math proficiency through interactive projects and activities specific to Navajo experience. Unique to Math Circles is the merging of mathematics with Navajo culture to solve open ended math problems.



The NLA had 38 participants that went into depth about the Navajo language and its structure. The NLA was founded in the early 1970's to increase research and understanding of Navajo grammar while developing learning material for instructors. The NLA examined learning materials, such as Young & Morgan's Navajo dictionary and other written documents in their research to better understand the language.

"This was a unique program for students who want to learn more about the Navajo language. It helped me to add more meaning to understanding as I speak [the language]," said Tyler Tinhorn, graduate student in NTU's M.A. degree in Diné Culture, Language, and Leadership. "It is important for us as Diné people and speakers to continue conversing with it so we can teach another generation of speakers."

## DEAN OF GRADUATE STUDIES APPOINTED TO NN BOARD OF EDUCATION

Navajo Nation President Jonathan Nez selected five members to the Board of Education (NNBE) to serve six-year terms beginning in 2020. Among those chosen for the board is Navajo Technical University Dean of Graduate Studies Dr. Henry Fowler who was appointed to represent as the Diné culture and language specialist. Originally from Tonalea, AZ, Dr. Fowler has been influential in helping students on the Navajo nation to become fluent with math while integrating the traditional aspects into their studies. Dr. Fowler's clans are Tódich'iiníi born for Tóbaahi Náneesht'ézhí. His maternal grandparents are Tł'izi láni and his paternal grandparents are Táchii'níi. He earned his Bachelor's degree in math from Northern Arizona University in Flagstaff and an Educational doctorate from Fielding University.

"My passion has always been in education. I became an educator in 1996 at Red Mesa High School and have since been teaching mathematics, including Navajo language and culture," said Dr. Henry Fowler. "For those of us that have been recently appointed and confirmed to the board we now have a tremendous responsibility to strengthen the education system through our leadership."

Dr. Fowler came to NTU in the fall semester of 2018 as a faculty member teaching mathematics and Diné Studies. In June 2019, he was delegated as the Dean of Graduate studies at NTU after the retirement of then Dean Dr. Wesley Thomas.



## NEW DEGREES

There were also new degree programs launched during the year. The Business Administration degree was the first new baccalaureate degree approved by the Higher Learning Commission. After it was launched the School of Business and Education became the highest enrollment school within NTU.

Then the Land Grant Department, part of the NTU's status as a land grant university, received HLC approval for a B.S. in Animal Science. Germaine Day, the Director of Land Grant Programs, has planned out an extensive School of Agriculture that is slowly taking shape. The first step in the plan was to accredit the Veterinary Technician associate degree, which has been accomplished. The next step was to develop an accredited Animal Science degree. Dr. Daye is currently working with President Guy to develop a tribal ranch that will be a key component to continuing to build an entire School of Agriculture.

An associate degree in Computer Science was approved by the HLC in December 2019. Other significant accomplishments included successful reaccreditation visits from the American Culinary Arts Federation for the Culinary Arts and Baking programs and Pre-Nursing reaccreditation. The New Mexico Board of Nursing also gave the go-ahead for NTU to work toward reinstating its Registered Nursing program.

## AUTOMOTIVE PURSUES NATIONAL ACCREDITATION

Several of NTU's academic programs have obtained national accreditation in recent years that have distinguished NTU as one of the premier higher education institutions in the Southwest. The university will next seek to attain national accreditation through the National Automotive Technicians Education Foundation (NATEF) for its Automotive Technology program, a process that has been four years in the making. NATEF is an independent non-profit organization that operates in all fifty states and evaluates technician training programs against standards developed by the automotive industry. It then has the ability to recommend qualifying programs accreditation.

"Employers want to hire students from a NATEF institution. It helps students find a job," explained NTU's Dean of Undergraduate Studies Dr. Casmir Agbaraji. "If your program is accredited, it's a way to identify that students are receiving high quality instruction."

The NATEF model establishes three levels of accreditation based on the number of tasks required for students to perform, the number of instructional hours, and instructor qualifications. NTU is pursuing accreditation under Automobile Service Technology (AST), which the university began in 2015 while applying for a Carl Perkins grant. As a result, the university has revised its Automotive Technology curriculum and upgraded its certificate program to an Associate of Applied Science degree under the Higher Learning Commission. NTU has also invested \$200,000 in tools and equipment and has renovated the Automotive Technology classroom building to include a tool room with a lock, a fence around its perimeter, and a freshly painted floor. The program will go under review with a NATEF accreditation team in February 2020.



*Recently approved A.A.S. degree in Computer Science*



*A.A.S. - Automotive Technology*



*Certificate - Pre Nursing*



*B.A. - Business Administration*



*Mark Louis Francisco, Kevin Harding, Alaine Kinlacheeny, Dexter Dale, Lorena Giesbrecht*

## CULINARY AND BAKING PROGRAM REACCREDITED FOR 5 YEARS

NTU's Culinary Arts and Professional Baking programs were granted five year re-accreditations with the American Culinary Federation (ACF) after achieving a zero non-compliance evaluation from an ACF visiting team in November. The visit lasted three days and included a review of program curriculum, safety and sanitation, equipment and facilities, and knowledge and skills competencies. The visiting team consisted of three certified executive chefs, including Mark Cochran of Stillwater, OK, Dana Baldwin of St. Augustine, FL, and Carlton Brooks of Phoenix, AZ.

NTU first earned a three-year accreditation with the ACF in 2011 and was extended another five years after a visit in 2015. Paperwork involving the most recent visit is expected to be completed by the ACF's Education Foundation's Accrediting Commission in January, after which, NTU will receive a formal notification letter. NTU's Culinary Arts and Professional Baking programs are the only such programs at a tribal college and university to hold accreditation with the ACF, and one of two existing programs in the state of New Mexico. Accreditation ensures employers that students have met the required level of competency set forth by the ACF.

"The students know what they're doing," stated Chef Brooks, a certified executive pastry chef and member of the prestigious American Academy of Chefs. "They're being trained properly and they're going out and getting jobs. [NTU] is giving students an opportunity to advance their career because they create a student whose mind is focused."

## LOOKING AHEAD AT FUTURE PROGRAMS

In December 2019 NTU developed of a Voter Interpreter's program after the Navajo Nation's Human Rights Office requested that NTU train interpreters to explain ballots written in the Navajo language. In San Juan County, Utah and Apache County, Arizona election office's challenged the Navajo Nation's failure to provide qualified interpreters available to explain ballots. NTU has developed a program to help fill that need.

Work also continued to further strengthen the accredited Biology B.S. degree, which has been developed as a pre-med degree. Plans developed during 2019 to expand enrollment in the pre-med program should be launched during 2020.



# ENDLESS OPPORTUNITY.



*Board of Regent member Gloria Grant recognizes Arlena Benallie during the grand opening of NTU's new Classroom Building.*



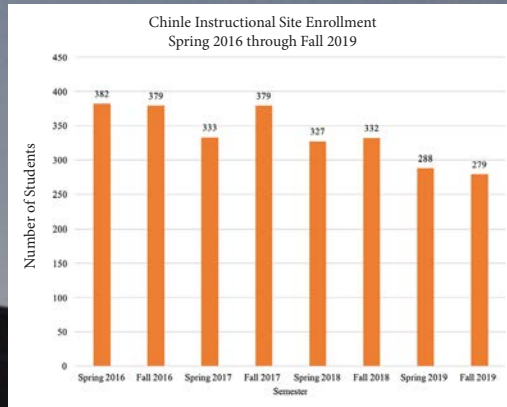
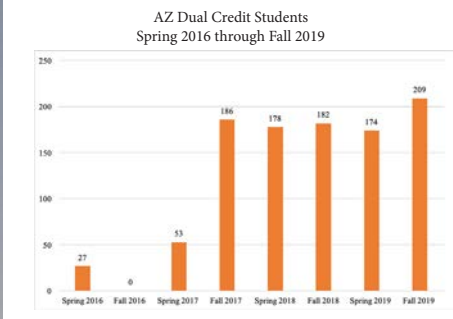
*Participants of the Trail Ride for Higher Education complete their nine day trip in Crownpoint, NM*



## CHINLE INSTRUCTIONAL SITE ON THE RISE

To support the growth in enrollment, developments at NTU's instructional sites is especially notable. The biggest news has been the grand opening of a 6,000 sq. ft. classroom building and the construction of 20,000 sq. ft. academic building at the Chinle, AZ site. Throughout 2019 the academic building saw construction crews working on creating a second major facility on the Chinle campus. As part of the celebration of this development, Instructional Site Director, Arlena Benalli, led a 135 mile horseback Trail Ride to raise awareness about higher education on the Navajo Nation and to encourage healthy living. The Chinle instruction site began in 2009 and has been sustained by community.





## FUNDING THE NAVAJO CENTER FOR THE ENVIRONMENT

During the Cold War, 30 million tons of uranium ore were mined on or adjacent to the Navajo Nation, leaving more than 500 abandoned mines. Since 2008, EPA has been addressing issues related to mines, resulting in enforcement agreements and settlements valued at \$1.7 billion earmarked to reduce the highest risks of abandoned uranium mine (AUM) radiation exposure. Funding is available to begin assessment and cleanup at 211 of the 523 AUMs, with federal agencies and the Navajo Nation working together. NTU is determined to lead such efforts, but it must first obtain an EPA certified environmental laboratory in order to access settlement funds to conduct remediation work that will benefit the Navajo Nation, Northern Arizona, and the U.S. economy as a whole.

Navajo EPA dedicated \$500,000 to the effort NTU is pursuing to create a Navajo Environmental Lab in Chinle on the new campus site. Arizona House Representative Myron Tsosie has developed legislation that he is introducing that would get Arizona to contribute \$3,000,000 for the project if the legislation passes and is signed by the Governor.

## GRAND OPENING OF CLASSROOM BUILDING



On August 7, 2019, NTU hosted a grand opening for a 6,000 sq. ft. classroom building located at its new instructional site east of Chinle Indian Health Services. The building represents a transition for the site, whose first ten years were sustained by strategic partnerships with the Chinle Unified School District and Navajo Nation Workforce Development. C.U.S.D. allowed the instructional site to offer courses at Chinle High School, while the agreement with Workforce allowed NTU to occupy three double wide trailers that included classrooms, offices, and administrative space.

## A:SHIWI COLLEGE TAKES COMMUNITY-BASED APPROACH TO ESTABLISHING ITSELF AS INSTRUCTIONAL SITE WITH NTU

The A:shiwi College and Career Readiness Center (ACCRC) in Zuni, NM has taken a community-based approach in reestablishing itself within the region by forging a partnership with Navajo Technical University to become an instructional site of the institution. As part of this approach, the Zuni site has engaged a broad-base of regional partners that will focus on hosting community-centered events to promote a cross section of cultures that increase knowledge and understanding.

“We took the lead from the council and other community members to re-learn traditional indigenous planting and farming,” explained Hayes Lewis, Director of A:shiwi College. “[The demonstration garden] is going to be the center where we reintroduce ways of planting and propagation of plants, and on the culture side, really start making connections between the humans, plants, Mother Earth, and the environment in ways that aren’t presently taught in most schools.”



A Zuni Language and Culture Symposium was hosted at the ACCRC in June that welcomed Trisha Moquino of the Keres Children’s Learning Center and the 2017-2018 Miss Zuni Kenzi Bowekaty. The event featured a dance group performance and attendees were provided a traditional Zuni meal. Most recently, the instructional site hosted a two-day 3D printing camp presented by the Ke’yah Advanced Rural Manufacturing Alliance, and a one-day workshop on medicinal plants and their use in lotions, salves, and tinctures by Pamela Pickens of Inscription Rock Trading in El Morro, NM.

The medicinal plants workshop was part of an agriculture workshop series obtained by the ACCRC through a BIA-Zuni agency grant intended to establish a community demonstration garden at the instructional site. Other workshops conducted under the grant have focused on fruit tree grafting, pruning and orchard management, as well as soil regeneration using natural strategies. The remaining workshops will include an introduction to beekeeping, composting using the Johnson-Su Bioreactor method, and seed saving and traditional Zuni gardening.

“We want people to know that education doesn’t just end at grade 12,” explained Lewis, who worked at the Institute of American Indian Art for ten years as the Director for the Center for Lifelong Education and as an adjunct faculty member before serving as the Superintendent of Schools at Zuni from 2012-2016. “Connecting with NTU really shows and demonstrates that indigenous people can decide what education is from our own perspectives and take a path that will be more holistic and more supportive of our communities.”

In addition to the remaining agriculture workshops, the ACCRC hosted the 2019 Zetac Summer Institute. The institute is open to the community and will include presentations on holistic models of health, creating an artisan cooperative, and decolonizing the way we plant among other topics.



# EARLY COLLEGE ACADEMY AT HIRTLAND INSTRUCTIONAL SITE CELEBRATES STUDENTS

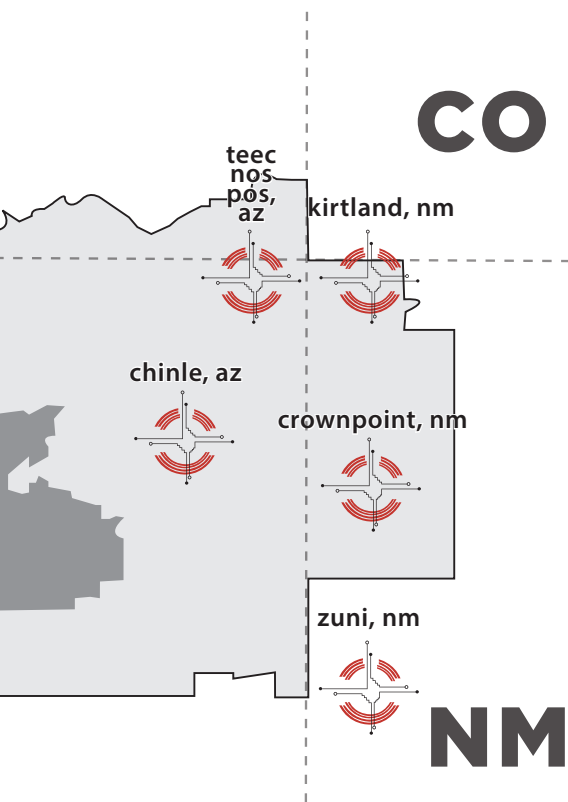


Layne Barton signs an APS scholarship.

On May 13, students, faculty, and staff at the Bond Wilson Technical Center celebrated their year-end achievements for the 2018-19 school year, which included recognizing 80 students who completed coursework at Bond Wilson, and six students from NTU's Dual Credit Industrial Maintenance and Operation (IMO) program. Arizona Public Services (APS) also awarded student Layne Barton with the Four Corners Power Plant Navajo Scholarship and offered him an opportunity to work at the plant after he completes his program requirements.

"Layne was offered the Four Corners Power Plant Navajo Scholarship by signing the letter of intent that signifies his hard work and commitment to the IMO program, and we are excited for him," said Terry Dayish, APS Manager, Government Affairs. "This is the first year we offered this scholarship and we wanted to award a student that demonstrated the work ethic, reliability, and academic proficiency to be successful. Layne demonstrated these skills to receive this award."

A senior from Kirtland Central High School, Layne Barton completed NTU's dual credit courses in Industrial Maintenance and Operations offered by NTU at the Bond Wilson Technical Center. Barton signed an agreement with APS to receive a \$1,500 renewable scholarship with the organization, which can be used at any institution he chooses to complete his degree program. He completed the IMO program requirements at the Bond Wilson Technical center and graduated from Kirtland Central High School in May.



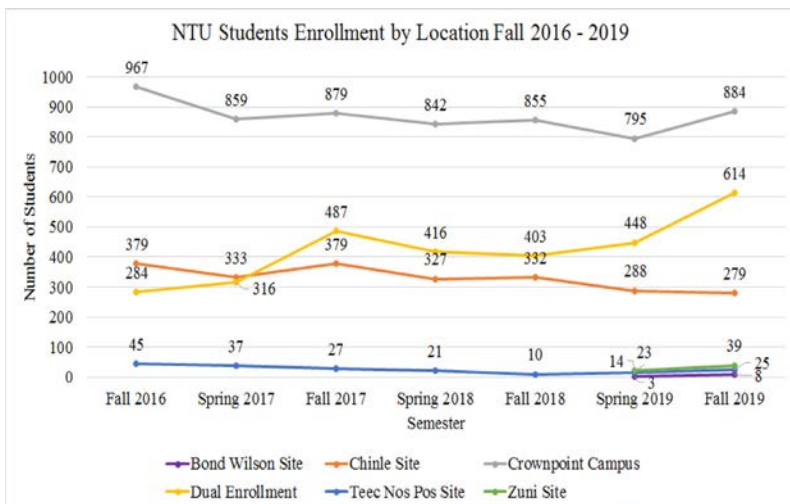
## TEEC NOS POS SITE STRENGTHENS COMMUNITY PRESENCE WITH FEAST



NTU's Teec Nos Pos instructional site sponsored a community luncheon themed, "NTU Thanksgiving Community Festival," a free event that included an open registration drive for the 2020 spring semester. Community leaders were excited about the event that was attended to capacity at the Teec Nos Pos Chapter house.

"Our partnership with Teec Nos Pos Chapter to offer college courses has been a success and we could not have accomplished this without the support of the community," said Dr. Frank Todacheeny, NTU Teec Nos Pos Instructional Site Director. "By hosting events like these we are letting our community know our appreciation for them and it also gives us the opportunity to get them informed about the progress of courses and what is to come from Navajo Tech."

As part of the event, NTU Navajo language and culture instructor Mr. Raymond Redhouse told a cultural story about the changing season and preparations that should be considered for the upcoming inclement conditions.



## STRATEGIC PARTNERSHIPS

Truth is that NTU's partnerships are delivering a steady increase in benefits for students. This year some of the partnerships included private sector businesses, especially at NTU and Central Consolidated School District's Bond Wilson Technical Center and major universities like Northern Arizona University and Harvard University.

NTU started its collaboration with Harvard in 2018 under the Vision for Excellence at NTU in Research and Education in STEM program (VENTURES). The program only expanded in 2019 to include summer internships and other unique experiences for students.

Five NTU Biology majors spent their summer working at Harvard's John A. Paulson School of Engineering and Applied Sciences where they were able to hone their research skills while gaining valuable insight into furthering their academic careers. Workshops and demonstrations were also arranged at NTU that discussed topics like Microfluidics, Soft Robotics, and Science and Cooking. The workshops were funding under a NSF PREM project.



**TOP 5** MOST AFFORDABLE  
4-YEAR DEGREE  
PROGRAMS IN  
THE NATION



Last year, NTU made several notable lists, including being named one of the top three higher education institutions in the state of New Mexico as well as one of the top value schools for online learning. In 2019, NTU's Bachelor of Science degree in Biology was ranked one of the top five most affordable bachelor's programs in the nation by Affordable Schools. The ranking considered average cost of attendance and student-to-faculty ratio.

## GOVERNOR GRISHAM VISITS NTU

In December 2019, New Mexico Governor Lujan Grisham visited both the Church Rock Innovation Center operated by NTU and the Crownpoint, NM campus. President Dr. Elmer J. Guy welcomed the Governor to Crownpoint where she heard plans from Navajo Nation officials and discussed her plans to support proposals beneficial to American Indian communities throughout the state. Governor Grisham also discussed backing educational initiatives that favor higher education in the state, including tribal college and universities (TCUs).

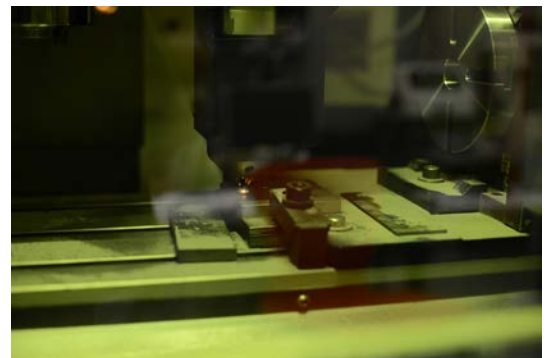


## NASA PARTNERSHIP INVOLVES PRINTING IN METAL

A good example of the significance of the year's accomplishments is the grant to NTU recently announced by the National Aeronautics and Space Administration (NASA). There are several aspects to the project designed by Dr. Monsuru Ramoni. The first of these aspects was the range of partners put together in order to accomplish the research proposed: the Marshall Space Flight Center Advanced Manufacturing Center, the University of Alabama Huntsville, and V&M Global Solutions. These are all major players in advanced research for some of NASA's most important projects.

The project itself is based upon a new piece of high priced equipment acquired by NTU's Center for Advanced Manufacturing that has the capability to print out metal 3D parts. This alone was a major accomplishment that continues to keep NTU at the forefront of advanced manufacturing laboratories in the higher education community worldwide. What the research project is designed to accomplish is research into the microstructure of AM Incolnel-Cu alloy bi-metallic parts for rocket engines. The goal is to determine the necessary linkages between microstructure, post-processing, dimensional accuracy, and mechanical properties of the parts that will be used in the scheduled 2024 NASA mission to the moon.

All of this may not mean much to non-engineers and non-scientists, but the possibility exists that this project could help pioneer new methodologies and processes for the creation of materials that can be used in engines that operate in extremely high-heat structures. Whether or not economic development results from this research will, of course, depend upon what is discovered through the project, but the point is that this level of technical expertise, mastered by NTU students studying electrical engineering and advanced manufacturing, not only helps their careers, but also holds the promise of breakthroughs that can create economic possibilities for Navajo-based businesses or corporations willing to operate using high skill, high wage Navajo employees. This project is just one sign that NTU's efforts to develop itself into a research university with the intention of creating economic development for the Navajo people is on its way to creating an exciting future for both the university and the Navajo Nation.



*NTU is the only TCU in the nation with a 3D metal printer (pictured above), and the only higher education institution in New Mexico. The printer, along with several other advanced manufacturing technologies, will be used to help contract out work to major industries.*

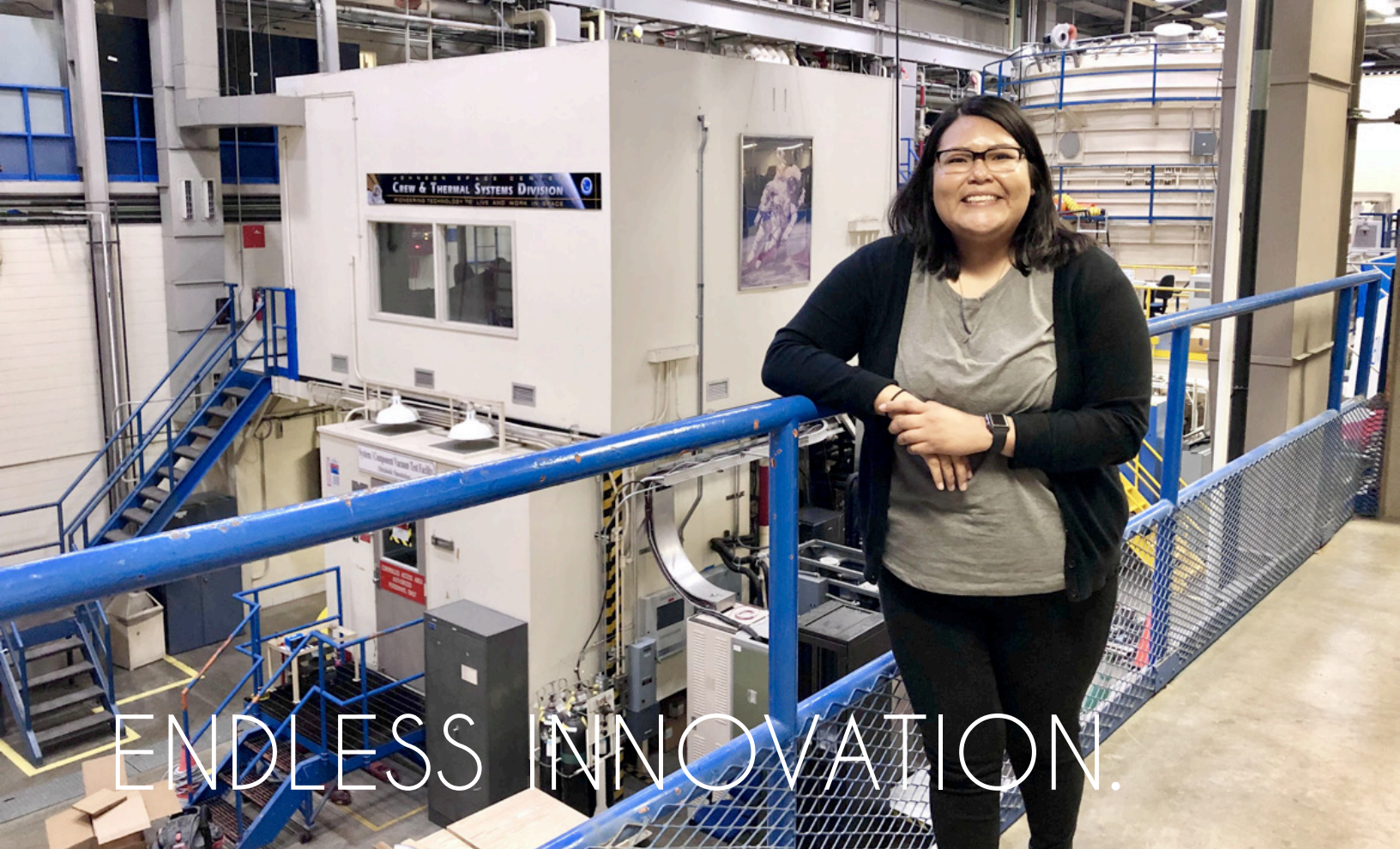
## FUNDING WORK IN ADVANCED MANUFACTURING



*NTU's Center for Digital Technologies received \$4,000 from the Gene Haas Foundation for Manufacturing Scholarships.*

Development of the NTU Center for Advanced Manufacturing (CAM) has been supported by grants from funding agents including NASA, National Science Foundation, the Department of Education the U.S. Economic Development Administration, and the Navajo Nation. The funding has been crucial to building the capacity to support the CAM's three pillars: (1) education, (2) research and (3) services in advanced manufacturing.

The NTU CAM has been building its capacity to support each of the pillars needed to effectively operate within the Additive Manufacturing "eco-system" in an integrated manner that rivals other major universities. This "eco-system" includes Pre-Processing, Processing, Post-Processing, and Validation activities. Once complete, NTU will be the only higher education institution in the nation that specializes in the full eco-system of advanced manufacturing. A new building is expected to be constructed in 2020 to house the CAM and a Metrology laboratory.



# ENDLESS INNOVATION.

*Nylana Murphy at JSC.*

## STUDENTS GAIN VALUABLE EXPERIENCE WITH NASA INTERNSHIPS

Seven Navajo Technical University students experienced summer internships and work opportunities with NASA designed to develop a better understanding of their respective field of study. Internship opportunities between NTU and NASA have been an ongoing collaboration for the past decade, and have grown in sophistication since NTU has expanded its academic offerings to include four year degrees and programs with national accreditations, such as its engineering programs and ABET.

Students Marcie Vandever of Thoreau, NM and Adriane Tenequer of Crownpoint, NM participated in a two-month internship at Marshall Spaceflight Center in Huntsville, AL where they learned about materials testing and calibrating materials testing machines. Vandever and Tenequer are majors in industrial engineering and advanced manufacturing, and have extensive experience working in NTU's sophisticated fabrication laboratory.

The experience with NASA furthered each students' understanding of metrology, and expanded their comprehension of how materials testing could be applied at NTU's new Center for Advanced Manufacturing. The experience also helped validate their studies and provided them with industry insight into how materials testing is applied in a real world work setting.

"A lot of the stuff I learned [during my internship] I was told it would help me for my course studies because it would put me a step above the rest," recalled Marcie Vandever, who furthered her understanding of elevated and high temperature testing over the summer. "I'm starting to understand it now with the classes I have this semester. Seeing it there and in an actual laboratory and applying it to what I'm learning in my books now, I'm pretty lucky."

Information Technology major Nylana Murphy (pictured above) also had to travel out of state to participate in her internship, which landed her an opportunity to work at NASA's Johnson Space Center (JSC) in Houston, TX. The internship had Murphy work under JSC's Crew and Thermal Systems Division where she audited hardware and components that support aerospace life

support systems, such as a portable life support system that allows astronauts a livable atmosphere inside their spacesuit. Murphy helped audit hardware testing rigs and she managed folder structures of Microsoft SharePoint webpages.

While Vandever, Tenequer, and Murphy had to travel out of state for their internships, several students worked in Crownpoint under a NASA grant to provide support for the inaugural NTU-NASA Robotics Academy. Students worked as youth mentors for the Academy, which was developed to increase youth participation in Science, Technology, Engineering, and Mathematics fields. The students who served as mentors included industrial engineering majors Jonathan Chinana, Calsey Nez, and Aaron John, and early childhood multicultural education major Marell Charley.



*Governor Lujan Grisham with Leslie Tsosie.*

## **GRAD STUDENT PARTICIPATES IN LEADERSHIP PROGRAM**

Leslie Tsosie, who earned her B.A. degree in Diné Culture, Language and Leadership from NTU in December, was accepted into George Washington University's Native American Leadership Program for the 2019 spring semester in Washington, DC. The program is offered under the American Indian College Fund (AICF) and provides students with the opportunity to study the public policy decision-making process, governmental functions, and politics in a democratic society.

"I've been a recipient of the AICF scholarship since I've began the program here at NTU. A representative came to present the opportunity and I agreed to apply, and then received a congratulations letter," said Tsosie, who is now enrolled in the M.A. program and works in NTU's advising office. "The courses in leadership are more what I'm focused on because it will help me to better understand how I can contribute in a leadership role on the Navajo Nation."

## **STUDENTS ATTEND NATIONAL WOMEN TECHNOLOGIST CONFERENCE**

LaSheena Ramone and Victoria Charlie, juniors from the Electrical Engineering department attended the 2019 Grace Hopper Celebration held at the Orange County Convention in Orlando, FL in Oct. 2019. The event gathered over 26,000 women technologists from around the world to network, exchange industry ideas, and support workforce equality. The students represented NTU's Electrical Engineering program to learn about current trends that can be applied in their education and professions.

"It was amazing meeting different people of different ages and ethnic backgrounds. I found the Robotics Surgery lecture to be most amazing," said Victoria Charlie, a junior who was inspired to spread awareness to females who have an interest in STEM. "There were so many classes on Artificial Intelligence such as, self-driving vehicles, coding, virtual realities, and machine learning aviators. So much technology!"

The event offered a variety of lectures from various female keynote speakers from across different professions in STEM. The students each attended a presentation and were inspired to share their gained knowledge in their communities with those interested in pursuing an education in science and technology. Electrical Engineering Department Chair, Dr. Peter Romine selected the students to attend the event to broaden their perception about the Science, Technology, Engineering, and Mathematic fields outside the classroom.

## **CULINARY ARTS MAJORS DISPLAY REGIONAL DISHES AT DENVER FUNDRAISER**

Culinary Arts students Jucinda Begay (foreground) and Angelena Sheppard (background) attended an annual fundraiser sponsored by the American Indian College Fun known as the Denver Epicurean Award to Support Students (E.A.T.S.S.). Begay prepared blue corn tamales with rabbit while Shepard made a traditional Navajo cake for the event that was held September 17th at the Mile High Station in Denver, CO.

"Events like these help expose our students to the bigger picture of our industry that includes interacting with guests so they may share the stories behind their dishes," said NTU Culinary Arts instructor Brian Tatsukawa about his students preparing the food at the fundraiser. "Another perk is that our students often receive job offers from other chefs during these events."

Denver E.A.T.S.S. assembled some of the more renowned chefs in the region and invited culinary arts students from NTU and Lac Courte Ojibwe Community College of Hayward, WI. Overall the fundraiser introduced attendees to the variety of Indigenous cultures and the foods from each tribal nation.





*Graduates Selena Saunders, left, and Krystal Louis, right, were recognized at NTU's fall commencement on Dec. 13, 2019.*



*Earning national veterinary technician licensure qualifies students to work in a variety of work settings throughout the country.*



*Krystal Louis is pinned by Dr. Germaine Daye. Upon graduation, Louis has been hired by NTU's Veterinary Technology program.*



*NTU has a ribbon cutting ceremony for a new Vet Tech classroom building in Dec. 2019. The building is a requirement under the AVMA.*

## **STUDENTS FIRST TO GRADUATE WITH VETERINARY TECHNICIAN LICENSURE AFTER NTU GAINS AVMA ACCREDITATION**

Selena Saunders of Continental Divide, NM and Krystal Louis of Crownpoint, NM made tribal college and university (TCU) history by becoming the first students to graduate as licensed veterinary technicians from a Veterinary Technology program accredited by the American Veterinary Medical Association (AVMA). The students passed the licensure test, known as the Veterinary Technician National Exam (VTNE), in July 2019; however, certification is granted only when accompanied with a degree from an AVMA accredited program. Both students earned their degree on Dec. 13, 2019 at NTU's fall commencement.

"I feel very happy about this and I'm excited. I feel like we're on that path to graduating more students and really taking this program to the next level," exclaimed Dr. Germaine Daye, who was hired in 2009 to head NTU's Vet Tech and Lang Grant programs. "[Selena and Krystal] were two of the top students in their class. I have no doubt that in their careers, whatever task they take, they're going to be well prepared."

NTU's Associate of Applied Science degree program in Veterinary Technology was granted AVMA accreditation on its first attempt in March 2017, nearly 35 years after the program was first developed in 1983. The entire process took six years to complete, with two years devoted to gathering accreditation materials and evidence. Dr. Daye and her staff had to also revamp curriculum, improve classroom and research facilities, and balance coursework to include real world, hands-on experience and internships.

Dr. Daye and her staff worked long hours preparing Saunders and Louis for the VTNE, dedicating nearly six and half weeks, eight hours a day going over test material. Two students had taken the exam when NTU first received AVMA accreditation, however, they waited two years after graduating and were unsuccessful. At the suggestion of NTU's Veterinary Technology advisory board, students are now required to take the exam before they graduate, which to Dr. Daye, played a big part in the students' success.

"We are proud of this tribal institution," Navajo Nation President Jonathan Nez stated while in attendance for the pinning ceremony with Navajo Nation Division Director of Natural Resources Dr. Rudy Shebala. "We see great things happening here and I'm glad Dr. Guy has a vision for the Navajo people as well as this institution. The two students are reflecting the resilience of our people since time immemorial. I want to say thank you. There is hope."

NTU's Veterinary Technology program requires 73 credit hours with 54 hours of core veterinary technology instruction. Students are also required to take an Introduction to Veterinary Technology course that exposes students to the long hours required of veterinary technicians. In the course, students have to complete 20 hours assisting in community veterinary services, 30 hours assisting at the NTU teaching hospital, 30 hours of on-call duties providing animal care, 6 hours doing presentations at regional K-6 schools, and 3 hours doing outside veterinary volunteer work.

In addition to being joined by President Nez and Dr. Shebala, NTU also welcomed three of the Veterinary Technology program's seven advisory board members. The board members in attendance included Dr. Terry Clark of North Carolina, Dr. Gregory Caj of Florida, and Dr. Janet Payeur of Iowa.





# ENDLESS INSPIRATION.

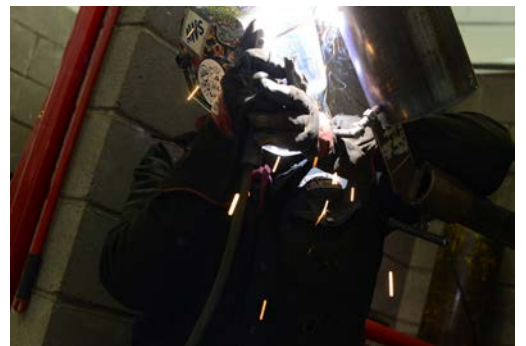
*Welding majors Leomi Foster and Gabrielle Bryant.*

## WELDING MAJOR CROWNED MISS NTU 2019-2020

On September 4, 2019, Leomi Foster of St. Michaels AZ a sophomore dual majoring in Veterinary Technician and Welding Technology, was crowned the 2019-2020 Miss Navajo Technical University. Ms. Foster is Tábaahá born for Tóbaazhni'azhi, her maternal grandparents clans are Kinlichinii and her paternal grandparents clan is Honaghaani. She is the third Welding Technology major to win the crown in the past three years following in the footsteps of Verna Casamero and Kuwanyauma Bahe.

"For me, holding a prestigious title means to honor and respect Navajo women and womanhood in every aspect and to display leadership and to be a role model that encourages the younger females to be comfortable with themselves," said Ms. Foster as she discussed her platform and ambitions as the representative for NTU. "I also want to attend as many community events to promote good health, our Navajo language and culture, the educational opportunities at Navajo Technical University, and bring more awareness to Missing and Murdered Indigenous Women."

Foster earned her certificate from NTU's Welding Technology program in December and will continue into NTU's A.A.S. degree in Veterinary Technology in 2020. While earning her certificate, Foster also earned 6G pipe welding certification with the American Welding Society as well as certification in D1.1 3Gn.4G structural arc welding.





## STUDENTS EXCEL AT AIHEC STUDENT CONFERENCE

Part of NTU that is always important are the competitions students are encouraged to enter. The American Indian Higher Education Consortium's Spring Conference draws students from all 38 tribal colleges and universities. Competitions range from basketball and archery to creative writing and scientific oral presentation. NTU students at this year's conference placed in 18 categories, receiving 7 first place finishes. NTU received honors in the majority of the conference's writing and poetry competitions. Dana Desiderio was the winner of the Tribal College Journal's Creative Writing Non-Fiction category for her piece "Exhalation," while Shyrelle Sloan was recognized in Creative Writing Fiction for her piece, "Shimá Sáni." Both students were recognized by the Tribal College Journal prior to the conference, as were honorable mention awardees Ashley Joe and Ryan Nez for their poetry. Ruby Griffith Ramirez of NTU's Chinle instructional site was the winner of the AIHEC poetry slam competition, and Lathan Pablo placed third in humorous speech.

In the athletic competitions, NTU students pushed the competition. NTU's volleyball team returned as champions after taking third place in last year's tournament. NTU's men's archery team repeated as champions and was led by Ryan Yazzie, who placed first overall with a score of 196. Nilsson Wood placed second with a score of 156. The men's archery team consisted of Yazzie and Wood, as well as Rashaundal Combs and Chase Bebo. The women's archery team placed 2nd behind Sinte Gleska University by only 2 points. NTU was led by Darreth Johnson, who placed third overall with a score of 118. Other members of the women's team included Dana Desiderio, Maureen Greyhair and Nicole Wilson.

NTU's women's basketball team also saw success, earning a third-place finish in AIHEC's Division I tournament. The team was led in the third-place contest against Turtle Mountain Community College by Starla Smith, who dropped 22 of her 32 points in the 4th quarter. Robyn Hubbell contributed 15 points, and freshman guard Malorie McKerry chipped in 13 points. Other competitions NTU students placed in were: Scientific Oral Presentation by Robinson Tom (2nd) and Darrick Lee (3rd); Scientific Poster Presentation by Ryan Data (3rd); Chess Team Competition by DeeAnna James, Lathan Pablo, and Walter Francis (3rd), and Powwow by Roland Begaye Jr. (3rd). NTU's Web design team of Ariel Dolfin, Kelby Spencer, Chantell Montoya, and Lathan Pablo also placed first.



*NTU's Web design team placed first. The team consisted of Ariel Dolfin, Kelby Spencer, Chantell Montoya and Lathan Pablo (coach Mark Trebian in middle).*

## NTU CONTINUES SUCCESS AT SKILLSUSA STATE COMPETITION, SENDS TEN TO NATIONALS

NTU students were equally successful at the annual SkillsUSA competition in Albuquerque. Ten NTU students traveled to Louisville, KY in June and competed in the SkillsUSA national conference after winning gold medals at the state competition. In total, NTU was awarded 25 medals across 18 competitions, while testing their vocational and job competencies against industry standards.

The ten students qualifying for nationals by earning a gold medal were Mark Louie Francisco for restaurant service; Jenelle King for job skill demonstration; Marell Charley for extemporaneous speech; Linda Todicheeny for early childhood education; Walter Francis, Darian Edsitty, Kalem Vandever, and Nillson Wood for team works; and the team of Shane Tsosie and Adriane Tenequer for additive manufacturing.

Earning silver medals for NTU were Dexter Dale for culinary arts; Mikalya Sam for restaurant service; Kevin Harding for baking; Sheila Begay for job skill demonstration; Nicole Shult for prepared speech; Eric Holiday for job interview; Marcie Vandever and Eric Bailey for additive manufacturing; and the team of Wyatt Tsosie, Derrick Chavez, and Santiago Benny for welding fabrication. NTU received four bronze medals at the state competition as well. Construction technology major Cyrus Coan placed third in cabinetmaking, while culinary arts major Shawn Curley placed third in baking and job skill demonstration. Aaron John also received a bronze medal in the job interview category.



*Nicole Shult receives a bronze medal for Speech.*



*Baking major Kevin Harding of Crownpoint.*



*Rashandal Combs, 1st place (tie)*



*Robinson Tom, 1st place (tie)*



*Elbasheena Allen, 2nd place*

## ENERGY THE FOCUS OF 7TH ANNUAL RESEARCH DAY

Research involving energy earned recognition at NTU's 7th Annual Research Day with three of the competition's top four presentations focusing on power. In total, 14 research posters were on display at the event that featured the work of over 20 students. Energy Systems major Rashaundal Combs and Biology major Robinson Tom received the highest evaluations from judges and were awarded a certificate and \$200.

Combs pursued a project that analyzed the various factors involved with harnessing naturally occurring winds to generate mechanical power into electricity. Combs' research was explored on a small-scale for home owners, and encouraged a hybrid system using a 500-watt wind turbine and 200-watt solar panels to lower monthly utility bills. Tom's research also focused on energy and involved fabrication and electrochemical studies of electrodes and aqueous gel electrolytes for light weight, non-flammable lithium ion batteries for U.S. Army soldiers in the battlefield. Tom, a veteran of the U.S. Army, indicated that soldiers rely on rechargeable battery-based equipment to complete missions, but the weight, packaging, and flammability of current lithium ion batteries comes with a risk. His research advocated for a shift to aqueous-based lithium batteries, which would allow for more charge-discharge cycles and higher capacity.

"It was difficult for us to maneuver freely during patrols, and they take up space," said Tom of the conventional batteries that were used during deployment. "Those of us who had to power electric equipment that was vital to the mission had to carry an excessive amount of batteries because the capacity wasn't that great. They would lose their charge in a short time. That was a safety concern for the soldiers."

Elbasheena Allen, an Environmental Science and Natural Resources major, placed second while exploring Traditional Ecological Knowledge (TEK) and the correlation of Diné traditional names for months with current climate realities. Allen used TEK as a baseline to gauge how the seasons have shifted in regards to nesting and planting seasons and measurements of precipitation and altitude. Electrical Engineering major Darrick Lee placed third, and used his research to provide a resilient and reliable grid to power communities in Tolani Lake, Grand Falls, and Sanders, AZ, and Sanostee, NM.



# ENDLESS POSSIBILITY.



## STUDENTS ELIGIBLE FOR LOTTERY SCHOLARSHIP

The New Mexico Lottery Scholarship is now available for students attending a tribal college or university in New Mexico after Gov. Michelle Lujan Grisham approved Senate Bill 407 in March 2019 to assist with educational expenses for the students. Students who wish to take advantage of the scholarship must enroll within 16 months after graduating from high school under the scholarship's criteria.

"This is a great opportunity for students to attend NTU and it benefits them more because they can get an education at a rate much lower than most colleges and universities in the state," explained NTU President, Dr. Elmer J. Guy. "Expenses for attending college has increased over the years and students need all the financial assistance that is available to them.."

The scholarship awards eligible students \$1,020.00 per semester up to seven semesters or until the student graduates with a bachelor's degree, whichever is sooner. The student must also have graduated from an accredited New Mexico high school or earned high school credits while maintaining residency in the state.

## TITLE III FUNDING EXTENDED

The American Indian Higher Education Consortium worked with NTU to reauthorize Title III, Part F legislation in Washington DC that provides important strengthening institutional funds. The reauthorization will provide Title III funding to tribal colleges and universities for ten years. These funds are part of the key operational funds for NTU and support services like tutoring and first year experience. Many of our efforts in the trade programs are supported under Title III funding as well.