



ESTABLISHED 1979

NAVAJO TECHNICAL UNIVERSITY

S I H A S I N

PLUMBING CERTIFICATE PROGRAM

Instruction Begins: August 2021

“Endless Opportunities”

NAVAJO TECHNICAL UNIVERSITY
Bond Wilson Technical Center
40 Rd 6580
Kirtland, New Mexico 87417

Contact: Dr. Vangee Nez, 505.609.5020
vangee.nez@navajotech.edu

REGISTRATION

1. Admission Application (online or paper)
2. Copy of Certificate of Indian Blood (CIB)
3. Copy of Social Security Card
4. Official Transcripts: High School or College
5. Take the Accuplacer Placement Test at Main Campus
6. Apply to FAFSA for Financial Aid.

ACCUPLACER TESTING AND ACT PLACEMENT

New incoming students are required to take the Accuplacer placement test to place students in the appropriate Math and English courses. Students can use ACT scores to determine if they meet a certain score for placement. Transfer students who have successfully completed a college level English and Math with a C or better at another institution (as recorded on an official transcript) will not have to take the test if the course was completed within 10 years of the admission date on the application. The advisor and academic counselor provide Accuplacer placement test interpretation for appropriate placement in Math and English courses. ACT score placements are available at the admissions office. Contact numbers: Crownpoint: (505) 387-7377, Chinle: (928) 882-3133.

Note: Students who placed lower on the Accuplacer placement test will be required to take additional English or Math courses. **EXAMPLE:** a student whose accuplacer score places them in ENG098 will have to satisfactorily complete ENG098 (a grade of C or better) before they can take the higher level required English course(s) for their certificate or degree.

FINANCIAL AID

NOTE: *The Federal Government has changed policy on Pell Grant for the summer. A student who received full Pell awards in the fall and spring semesters can still receive Pell this summer, as long as the student registers at least six credit hours this summer.*

While the student is ultimately responsible for meeting educational costs, most NTU students receive some source of student financial aid. A student's financial need is determined by an analysis of his/her income (if dependent of a parent, then his/her parent's income) and other financial resources considered as income (which may not be reported on the income tax form). It is expected that students who plan on attending Navajo Technical University will be responsible for tuition and fees and other college expenses incurred.

The number and amount of financial aid awards is subject to the availability of institutional, federal, and tribal funds. The type of aid and the amount awarded is also determined by the status of the student, established financial need, and the aid they are eligible to receive. NTU complies with grant, tribal, and federal policies and guidelines in reference to the type of awards and grants received and also by the regulations of the Department of Education in reference to Title IV funds.

To complete the FAFSA — Free Application for Federal Student Aid, click on <https://fafsa.ed.gov> to begin the process. Follow the steps. If you have questions about the FSA ID, you can find the answers to frequently asked questions [here](#). If you need assistance logging in with your FSA ID, you can contact 1-800-4-FED-AID (1-800-433-3243). You can also visit the financial aid office of the Crownpoint, Chinle, or Teec Nos Pos sites.

Step 1: Necessary Documents needed to complete the FAFSA process: **2019 Tax Forms.**

Step 2: Apply for a FSA ID—a username and password at www.fafsa.ed.gov

- Students will need their FSA ID to electronically sign their FAFSA
- Parents will need their FSA ID if parent's information is being provided to complete the FAFSA.

Step 3: Complete your FAFSA: www.fafsa.ed.gov

- NTU School Code: **016119** (Listed under NM)
- Use the IRS Data Retrieval Tool (IRS DRT) to update your FAFSA with IRS tax return information. If you have already submitted a FAFSA and would like to use the IRS DRT, click Login to start a correction. Once in the FAFSA, navigate to the "Finances" section, where the option to use the IRS DRT displays for eligible students and parents. You must indicate that you have completed a Federal tax return to be eligible to use the IRS DRT.

Step 4: Student Aid Report (SAR).

- Student receives the SAR through email or regular mail—depends on which one selected
- The school receives an electronic copy in about 5 - 7 days.

Step 5: Award Determination and Award letter

- Application packet is reviewed and an Award determination is done and an Award Letter is sent out. If the student IS selected for a process called "verification" by the Department of Education, the requirements must be met before an award will be determined.

Financial aid may come in the form of grants, scholarships, work-study programs or a combination thereof. The financial assistance most commonly obtained by NTU students comes through one or more of the following programs:

- The Federal Pell Grant ([Online application](#))
- The Navajo Nation Tribal Scholarship ([Online application](#))
- The American Indian College Fund ([Online application](#))
- The Federal Supplemental Educational Opportunity Grant (FSEOG)
- The Federal Work-Study Program
- Academic Competitiveness Grant (ACG)

Often students qualify for assistance from more than one source of aid. In such cases, a student's educational and living expenses may be completely covered through financial aid. If the financial assistance obtained is not sufficient to cover all school and living costs, the student may be eligible to obtain further assistance through alternative sources such as:

- Navajo Nation Workforce Development
- Tribal Chapter that the student is enrolled
- Tribal or State Vocational Rehabilitation Offices
- Tribal or State Veterans' Assistance Offices
- Americorps
- National Indian Youth Council

The student may also be able to supplement their financial aid income by obtaining part-time employment, upon availability of funds. The NTU Career/Job Placement Counselor is available to assist students in identifying and procuring work on or off campus.

Eligibility for financial assistance is based on a financial needs assessment. Factors considered in the assessment include:

- Student's expected family contribution (EFC) toward education
- Whether student is enrolled full or part-time
- The previous year's household income (based on income tax returns)
- Student's status as a commuter or campus resident

Students must apply for financial aid prior to the beginning of the academic year or semester for which they plan to enroll. This will ensure the timely identification, processing and disbursement of funds for which you may be eligible. Application deadlines for financial assistance vary depending on the source of funding, therefore is crucial for the student to apply early.

PLUMBING CERTIFICATE - 34 Credits

- **General Education Requirements: 12 Credits**
- **Core Plumbing Courses: 22 Credits**

The plumbing program prepares students to install and repair water distribution system, drainage, gas, bathtubs, toilets, dishwashers, and water heaters, septic tanks in homes, business, and factories. Graduates are able to find work as pipefitters or steamfitters by installing and maintaining pipes, which carry chemicals and gases in manufacturing, commercial, and industrial settings. Support is available for apprenticeship program to obtain journeyman certification in plumbing.

Semester ONE		Credits	Prerequisites	Semester/Transfer	Grade
ENGL1210	Technical Communications	3	ENGL098 or satisfactory placement scores		
MTH 113	Technical Mathematics	3	SEE CATALOG		
BCIS 1115	Introduction to Computers	3			
CT 121	Introduction to Building Environmental System	2			
PLMB 101	Introduction to Plumbing Concepts & Applications	2			
	TOTAL	13			
Semester TWO					
NAVA XXX	Diné Studies Course	3			
CT 210	Construction Site Safety Management	3			
PLMB 113	Plumbing and Pipefitting Fundamentals	2	PLMB 101		
CT 102	Construction Math and Drawing	2			
PLMB 105	Plumbing Fixtures & Blueprint Reading	2	PLMB 101		
	TOTAL	14			
Semester THREE					
PLMB 104	Drainage, Waste & Venting	3	PLMB 101 / PLMB 105		
PLMB 103	Water Supply and Distribution Piping	3	PLMB 101 / PLMB 105		
PLMB 114	Gas Pipefitting Installations	3	PLMB 105		
	TOTAL	9			
TOTAL REQUIRED CREDIT HOURS		34			

*** Please check course descriptions for the appropriate prerequisite course(s).*

	Signatures	Date
Student:		
Advisor:		
Registrar:		
Graduation Date:		

UPDATE 1/22/2021

Environmental Scan: Reason for offering a certificate program in Plumbing at Navajo Technical University

Classification of Instructional Programs of Plumbing (CIP Code of 46.0503).

[According to the U.S. Bureau of Labor Statistics, employment for plumbers, pipefitters, and steamfitters is projected to grow by sixteen percent from 2016 to 2026. \(16%\), https://www.bls.gov/ooh/construction-and-extraction/plumbers-pipefitters-and-steamfitters.htm](https://www.bls.gov/ooh/construction-and-extraction/plumbers-pipefitters-and-steamfitters.htm). Retrieved October 21, 2018.

On October 22, 2018, the International Water, Sanitation, and Hygiene Foundation, Inc. a Washington D.C. not-for-profit corporation (IWSH), the International Association of Plumbing and Mechanical officials, a California not-for-profit corporation (IAPMO), and Navajo Technical University (NTU) signed a Memorandum of Understanding, effective October 14, 2018 through October 16. Scope of the MOU is to provide basic knowledge and skills of plumbing and building installations and upgrades for communities in need, provide career and training opportunities in the plumbing industry, and promote public education awareness and education of plumbing's relationship to health.

Plumbers perform the following functions: install and repair water distribution system, drainage, gas, bathtubs, toilets, dishwashers, water heaters, septic tanks in homes, business, and factories. <https://careertrend.com/list-7562435-differences-between-steamfitters-pipefitters.html>. Retrieved October 21, 2018.

PIPEFITTERS (FITTERS) install and maintain pipes, which carry chemicals and gases in manufacturing, commercial, and industrial settings. Also, pipefitters install and pipe systems in power plants and heating and cooling in large offices.

Steamfitters specialize in liquids and gases that are under high pressure as well as installation and repair of gages and automatic controls.

CERTIFICATION: Training of plumbers, pipefitters and steamfitters requires a combination of classroom instruction and on-the-job training.

SIMILARITIES: Plumbers, pipefitters, and steamfitters usually perform the following duties:

- Installation and maintenance of piping systems and fixtures
- Work on residential, commercial, and industrial projects
- Follow safety regulations to do the job correctly and safely
- Prepare cost estimates for clients
- Read blueprints and follow state and local building codes
- Inspect and test installed pipe systems and pipelines
- Troubleshoot malfunctioning systems
- Repair and replace worn parts.

COURSE DESCRIPTIONS

GENERAL EDUCATION (12):

BCIS 1115 (3) Introduction to Computers

This is a hands-on course in personal computers, including hardware, operating software, and applications. The class will include an overview of the history of technology and its future as well as giving a fundamental introduction to industry-standard application software for word processing, spreadsheets, database management, and graphics. Basic computer use, files and file structure,

Windows, the Internet, programming, ethics, and security will also be addressed. This course (or a higher-level course) is a general education requirement for all degree programs.

ENGL 1210 (3) Technical Communications

This is an introductory study of written and verbal communications used in the technical professions with emphasis in the planning, execution, and editing of professional and technical documents and other communication media. Prerequisite: A grade of C or higher in ENGL-098 or satisfactory placement scores. Offered: Fall, Spring.

MTH-113 (3) Technical Mathematics

This course will cover the application of arithmetic, measurement, introduction to algebra, equations and formulas, ratio and proportion, geometry, right triangle trigonometry, Law of Sines, and basic statistics. The Navajo cultural ways of learning and knowing are integrated as well. Satisfactory placement score 237 and under will require Co-requisite of MTH-113L.

NAVAJO STUDIES (3) (Choose one)

NAVA-2210 (3) Navajo Culture

This course examines the moral values in the Navajo society, and their contribution to the definition of identity and autonomy. The course includes instruction in the clan system, symbolic interpretation and understanding of the Navajo educational philosophy, and the four principles that bring harmony to the culture. The course discusses the historical perspective and the contemporary society of the Navajo (Diné) people. *Offered: Fall, Spring.*

NAV-2220 (3) Navajo History

Introduces the history and culture of the Navajo people from the earliest times to the present. The course will examine cultural change, the interaction of the Navajo with other native groups and especially with European peoples. *Offered: Fall, Spring.*

NAVA-2230 (3) Navajo Government

This course is a study of the history, nature, organization, and operation of the Navajo tribal government. It concentrates on its evolution since its beginning in the 1920s, and examines the legal and political basis for, and functions of, the tribal government. The course brings an overview of the major contributions from each tribal administration and the political relationship of the Navajo to the state and federal governments. *Offered: Fall, Spring.*

CONSTRUCTION (7):

CT-102 (2) Construction Math & Drawing

Introduction to the principles of drafting to include terminology and fundamentals, including size and shape descriptions, projection methods, geometric construction, sections, auxiliary views, and reproduction processes. Offered: Fall, Spring.

CT-121 (2) Introduction Building Environmental System

This course provides an introduction to the building systems, operations, and maintenance of residential properties. Topics include basic mechanical, electrical, and plumbing systems. The course is aligned with the National Center for Construction Education and Research standards. Offered: Fall.

CT-210 (3) Construction Site Safety Management

Emphasis is placed on identifying and reducing safety risk on the job site. Students will study OSHA standards, accident and fire prevention, protection from hazardous materials, use of protective equipment

and clothing, construction equipment and other safety concerns. The role of managers, workers, sub-contractors and others is stressed. Student will gain an appreciation for how accidents and safety concerns affect morale and productivity. Offered: Fall.

PLUMBING (15):

PLMB-101 (2) Introduction to Plumbing Concepts and Applications

Introduction to plumbing concepts and applications will provide foundational knowledge that students will need to successfully participate in and complete future classes. Role of a plumber regarding use of tools, safety, role of standards and codes, ensure that products installed in the field are marked and satisfied for intended use, and importance of proper plumbing will be discussed.

PLMB-103 (3) Water Supply and Distribution Piping

Students will be able to understand water supply and distribution more effectively. Discuss and identify requirements for proper installation of water supply and distributions systems as well as plumbing fixtures and fittings in accordance with the uniform plumbing codes. *Prerequisite: A grade of C or better in PLMB-101.*

PLMB-104 (3) Drainage, Waste, and Venting

Students will be able to demonstrate a strong understanding of drain, waste, and vent systems effectively. Discuss and identify requirements for proper installation of drain, waste, and vent systems. Identify fixture unit loads for wastewater, and drain, waste, and vent system sizing. Students will be able to understand installation of various components in the systems in accordance with plumbing code. *Prerequisite: A grade of C or better in PLMB-101.*

PLMB-105 (2) Plumbing Fixtures and Blueprint Reading

Fixtures, appliances, pump systems design, plumbing codes and standards, acceptable installation practices and acceptable materials, troubleshooting and repair of pipes will be discussed. In addition, students will demonstrate a strong understanding of basic drawing tools, measuring tools, lettering, drawings, and symbols found on blueprint, which are associated with plumbing and pipe industry. *Prerequisite: A grade of C or better in PLMB-101.*

PLMB-113 (2) Plumbing and Pipefitting Fundamentals

Students will be able to identify common pipes and fittings used for plumbing installations. Pipe joining, valves, venting, backflow prevention and water quality will be discussed. Additionally, terminology of design, construction and sizing, and approved uses of different materials will be taught in this course. *Prerequisite: A grade of C or better in PLMB-101.*

PLMB-114 (3) Gas Piping Installations

Student will be able to gain hands-on experience in safe handling of natural gas, liquefied petroleum gas, fuel oil, potential hazards, systems installations, and testing. *Prerequisite: A grade of C or better in PLMB-105.*