NAVAJO TECHNICAL UNIVERSITY

2016-2018 STUDENT CATALOG

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NTU

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Catalog Effective: May 31, 2016

All changes, following effective date of Catalog, will be added as an addendum.

Next review date: April 2018

WELCOME FROM THE PRESIDENT

Welcome to Navajo Technical University! We are glad you have chosen to come to our Institution. Our staff and faculty at our Crownpoint, New Mexico campus, Chinle, and Teec Nos Pos, Arizona instructional sites are eager to help you succeed in your effort to earn a certificate, associate, baccalaureate or a master's degree. Navajo Tech offers a variety of courses, programs, and services to meet your individual needs. Please visit our web site and online learning tools at www.navajotech.edu.

NTU is a truly special University. Here students can get involved with projects using Information Technology or Advanced Manufacturing Technology designed to build a world-class technology infrastructure. Our Culinary Arts and Baking programs will stir up a good recipe for an exciting career in this area's hospitality industry. While you are here, you might find yourself winning a state championship with the SkillsUSA program in Albuquerque and traveling to Kansas City to challenge for a national championship in culinary arts, carpentry, public speaking, automotive technology, technical drafting, or another field. Or you might travel to American Indian Higher Education Consortium's Student Congress to compete in competitions against other tribal colleges and universities.

This *General Catalog* will be one of the most important resources for you. It provides descriptions of courses and programs that will guide you toward earning the certificate or degree you want to earn. Take advantage of the advisors, counselors and faculty members who are available to help you. Use this catalog as a tool to help you reach your goals.

Navajo Tech has an open door admissions policy. Therefore we welcome you with high expectations. I want to point out that we are a Navajo Nation Higher Education Institution. We want all of our Navajo and non-Navajo students to learn about the Navajo heritage and the unique Diné philosophy by taking language, culture, history, and/or government classes. We expect to produce Diné leaders who will uphold the proud traditions of our Nation.

There is so much about Navajo Tech I would like to share with you: state of the art classroom equipment, our outstanding residential facilities for families and single students, our cafeteria, and an ever-growing campus with expanding student life programs. But the best way to get to know about our university is to experience what it has to offer. Welcome to the place where education is an experience and where we will prepare you for your future.

Elmer Guy, Ph.D.
President

NAVAJO TECHNICAL UNIVERSITY

Vision

The vision of Navajo Technical University is to educate Navajo individuals; utilize state-of-the-art technology; and to enhance desirable character traits of integrity, self-discipline, loyalty, and respect, which give the Navajo people hope, courage, and the resiliency essential to their survival as a people, using the strengths inherent in the Navajo cultural values and traditions.

Philosophy

The philosophy of Navajo Technical University is *Nitsáhákees, Nahátá, Íína, Siihasin*. Navajo Technical University believes that every student has the innate ability and intelligence to acquire academic and 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.

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, Nahátá, Íína, Siihasin.*

Navajo Technical University maintains an open admissions policy. Navajo Technical University does not discriminate on the basis of race, color, religion, national origin, sex, gender, age or disability. The university complies with applicable provisions of the Civil Rights Act of 1964; Sections 503 and 504 of the Rehabilitation Act of 1973; Section 402 of the Vietnam Era veterans Readjust Act of 1975; the Age Discrimination in Employment Act of 1967, as amended; the Higher Education Opportunity Act, as amended; and the Navajo Preference in Employment Act. Equal opportunity for employment and admission is extended to all persons in accordance with Navajo Nation and applicable federal law.

Navajo Technical University
Board of Regents

ACCREDITATION AND CERTIFICATION

Navajo Technical University is fully accredited by
North Central Association Higher Learning Commission
2005 – Present

The Higher Learning Commission accredits degree-granting post-secondary educational institutions in the North Central region.

2016-2017 Academic Calendar

Fall Semester 2016

Pre-Registration Begins ....Apr 26

Faculty First Day ....Aug 8

New Student Orientation .... Aug 11

On-Site Registration ……………………. Aug 12

HOLIDAY – Navajo Code Talkers Day.... Aug 15

Instruction Begins ....Aug 16

Late Registration w/fee .... Aug 17-18

Last Day to Add/Drop Classes w/out W.....Aug 19

HOLIDAY - Labor Day ....Sep 05

Fall Graduation Petition due......................Sep 30

Mid Term Exams......................................Oct 3-7

Last Day to Withdraw With a W ....Oct 24

HOLIDAY - Veterans Day observed ....Nov 11

Fall Break..Nov 22-23

HOLIDAY - Thanksgiving Day ....Nov 24

HOLIDAY - Navajo Family Day...............Nov 25

Final Exams ....Dec 5-8

Grades due to Registrar .... Dec 8

FALL GRADUATION................……......… Dec 9

HOLIDAY - Christmas .... Dec 25

Spring Semester 2017

On-Site Pre-Registration .... Oct 31

HOLIDAY - New Year's Day....................... Jan 02

Faculty Return .... Jan 9

New Student Orientation.............................. Jan 12

On-Site Registration .... Jan 13

HOLIDAY - Martin Luther King Day …........ Jan 16

Instruction Begins....................................... Jan 17

Late Registration w/ fee ....Jan 18-19

Last Day Add/ Drop Classes w/out W …........ Jan 20

HOLIDAY - President's Day.........................Feb 20

Spring Graduation Petitions due ....Mar 3

Mid Term Exams .... .Mar 6-10

Spring Break.. Mar 13-17

Last Day to Withdraw With a W ....Mar 30

HOLIDAY - Navajo Sovereignty Day...........Apr 24

Final Exams.. May 8-11

Final Grades due .... May 11

SPRING GRADUATION…………….…….May 12

2017 Summer Session ONE

On-Site Pre-Registration .... Apr 3

Instruction Begins....................................May 22

Late Registration w/ fee ....May 23

Last Day Add/ Drop Classes w/out W …..May 24

HOLIDAY - Memorial Day ....May 29

HOLIDAY – Navajo Nation Memorial Day Jun 1

Last Day to Withdraw ....Jun 09

Last Day of Class/Grades Due.................Jun 23

2017 Summer Session TWO

On-Site Pre-Registration .... Apr 3

Instruction Begins...Jun 26

Late Registration w/ fee ....Jun 27

Last Day Add/ Drop Classes w/out W …........Jun 28

HOLIDAY – Independence Day ....Jul 04

Last Day to Withdraw....................................Jul 14

Last Day of Class/Grades Due.......................Jul 28

See instructional site for orientation schedule

2017-2018 Academic Calendar

Fall Semester 2017

Pre-Registration Begins ....Apr 25

Faculty First Day .... Aug 7

New Student Orientation .... Aug 10

On-Site Registration ……………………. Aug 11

HOLIDAY – Navajo Code Talkers Day..... Aug 14

Instruction Begins ....Aug 15

Late Registration w/fee .... Aug 16-17

Last Day to Add/Drop Classes w/out W.....Aug 18

HOLIDAY - Labor Day ....Sep 04

Fall Graduation Petition due.......................Sep 29

Mid Term Exams......................................Oct 2-6

Last Day to Withdraw With a W ....Oct 23

HOLIDAY - Veterans Day observed ....Nov 10

Fall Break..Nov 21-22

HOLIDAY - Thanksgiving Day ....Nov 23

HOLIDAY - Navajo Family Day...............Nov 24

Final Exams ....Dec 4-7

Grades due to Registrar .... Dec 7

FALL GRADUATION...............…….......… Dec 8

HOLIDAY - Christmas .... Dec 25

Spring Semester 2018

On-Site Pre-Registration.. Oct 30

HOLIDAY - New Year's Day........................ Jan 01

Faculty Return .... Jan 8

New Student Orientation.............................. Jan 11

On-Site Registration .... Jan 12

HOLIDAY - Martin Luther King Day …........ Jan 15

Instruction Begins.. Jan 16

Late Registration w/ fee ....Jan 17-18

Last Day Add/ Drop Classes w/out W …........ Jan 19

HOLIDAY - President's Day ....Feb 19

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Mid Term Exams .... .Mar 5-9

Spring Break.. Mar 12-16

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Final Exams... May 7-10

Final Grades due .... May 10

SPRING GRADUATION……...…..…...…..May 11

2018 Summer Session ONE

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Last Day of Class/Grades Due...................Jun 22

2018 Summer Session TWO

On-Site Pre-Registration .... Apr 2

Instruction Begins..Jun 25

Late Registration w/ fee ....Jun 26

Last Day Add/ Drop Classes w/out W ….…....Jun 27

HOLIDAY - Independence Day ....Jul 04

Last Day to Withdraw ....Jul 13

Last Day of Class/Grades Due........................Jul 27

See instructional site for orientation schedule

History

Navajo Chief Manuelito suggest to his people 145 years ago: "My grandchildren, education is the ladder," Since that time have Navajo people have advocated this vision for young people to go out and receive and education. The numbers show an increasing number of our youth have completed their pursuit higher education. Navajo Technical University has become an important step on that ladder by providing the next step on that ladder, an education that is local, economically feasible and steeped in traditional ways of knowing.

At its inception as the Navajo Skill Center in 1979, the institution was able to meet the immediate needs of a population. Students learn the rudiments of a trade, graduated, and joined the workforce in and around the Navajo Nation. It soon became clear that the students wanted more than knowledge or skill in a trade or vocational program. Prompted by the school's expanding mission, in 1985 the Board of Directors changed the Skill Center's name to Crownpoint Institute of Technology (CIT).

In 1994, through an Executive Mandate by the United States, CIT was designated as a Land Grant college. The status has led to rapid expansion of the school's facilities and services as well as to its increasing influence in the academic community. A land-grant college is an institution of higher education in the United States designated by a state to receive the benefits of the Morrill Acts of 1862 and 1890. Both Morrill Acts funded educational institutions by granting federal land to the states for them to develop colleges with a mission as set forth in the 1862 Act which is to focus on the teaching of practical agriculture, science, military science and engineering as a response to the industrial revolution and changing social class. This mission was in contrast to the historic practice of higher education to focus on an abstract liberal arts curriculum.

In November 2006, the Navajo Nation Council approved changing the name to Navajo Technical College (Navajo Nation Council Resolution CN-58-06) and only a few years later, in July 2013 the named chanter again to Navajo Technical University (Navajo Nation Council Resolution CJY-35-13). Navajo Technical University developed swiftly into a respected technical-vocational tribal University that addresses the continually changing requirements of its students. The University offers a broad selection of certificate and degree programs, each designed to prepare students for entry into careers and further education. Our graduates' professional and academic success is living testimony to the quality of their education at NTU.

Today, in the high-tech, high-speed twenty-first century, the magnificent high desert country of the Navajo Nation remains largely unknown to the rest of the world. Remote, mysterious and unspoiled by the wider society that surrounds it, the Navajo culture not only survives, but flourishes. Since the desperate days of the Long Walk, a century and a half ago, when the possibility of extinction loomed above us, the Navajo population has grown to become the largest American Indian Nation in the United States. Now numbering some 300,000+, our population is young and proud, and is ambitious in its desire to preserve its heritage and to meet the challenges of a world in which change is the only constant. The Navajo language is recognized by the Modern Language Association as one of the 30 major non-English languages spoken in the United States today.

NAVAJO TECHNICAL UNIVERSITY

This catalog serves as a guide to programs, policies, regulations and fees that governs students attending Navajo Technical University. Navajo Technical University reserves the right to change the content of this catalog at any time without notification. It is the sole responsibility of the student to know and understand the catalog for completion of a certificate or degree.

Navajo Technical University is a non-profit institution of higher learning and is chartered by the Navajo Nation.

http://www.navajotech.edu

Crownpoint Campus
P.O. Box 849
Crownpoint, New Mexico 87313
Telephone: (505) 786-4100
Fax: (505) 786-5644

Chinle Instructional Site
P.O. Box 849
Chinle, Arizona 86503
Telephone: (928) 674-5764
Fax: (928) 674-5700

The Chinle Instructional Site is a growing site located in Chinle, Arizona near Canyon De Chelly. The Chinle site offers several certificate and associate programs and holds classes at Chinle High School by agreement with the school district.

Library and research services at the Chinle Instructional Site are primarily supported by electronic means (Internet connectivity between Chinle and the NTU main campus at Crownpoint). The programs at the Chinle Instructional Site are designed to serve students from the rural communities surrounding Chinle, Arizona, to provide a non-residential opportunity to attend higher education near home. This is an important development in establishing healthy community relations.

Information and enrollment procedures can be acquired by visiting the Chinle Instructional Site at East Navajo Route 7, or by calling (928) 674-5764.

Teec Nos Pos Instructional Site
PO Box 1203, Teec Nos Pos, AZ 86514
Telephone: (928) 656-3600
Fax: (9928) 656-3596

Four Corners Regional NTU site, located in Teec Nos Pos, Arizona is currently offering courses to students in the four-corner region in northeastern Arizona. The site facilities are located south of Teec Nos Pos Chapter compound, Highway 160 BIE Road N5114. Contact the Teec Nos Pos Coordinator at (928) 656-3600.

ADMISSIONS

1. General Admissions

The following documents must be received in the Admission's Office. There are additional requirements for all Bachelor Degree Programs and the following programs: Commercial Driver License (CDL), Registered Nursing (RN), and Veterinary. International Students have their own admissions requirements.

a. A completed and signed NTU Application for Admission.

b. A Certificate of Indian Blood (CIB) or an official record of enrollment that indicates membership with a federally recognized Indian Tribe for all Native American students.

c. An *Official* high school transcript or an *official* General Education Development (GED):

- Official high school transcripts should indicate graduation date and a "passing" result from the state competency exam. Students, who do not have an official high school transcript to indicate completion, will be required to submit a notarized Verification of Completion from the school district attended.

  An applicant who has not pass the state competency exams or receive an official high school diploma will be referred to an Admission Interview Committee.

  Note: Students who do not have high school documentation are not eligible for federal student aid. These students are responsible for payments of tuition and fees.

- GED results require a passing score of 45 or higher in all subject areas.

d. *Official* college transcripts from each college attended.

e. Copy of Social Security Card – verification of legal name and SSN number.

f. Copy of DD214 if a Military Veteran to verify status.

2. Home School Admissions

Students enrolled in a home school program will be referred to the Admission Interview Committee. Those accepted to NTU are required to meet regular or provisional admission. In addition, the home school educator must submit a transcript or document that lists the courses completed and grades earned by the student and also indicate the date the student completed or graduated from the home school program. *Note: Students who do not have high school documentation are not eligible for federal student aid. These students are responsible for payments of tuition and fees.*

3. Early Admission for High School

Outstanding high school students can be admitted to NTU prior to high school graduation as a concurrent enrollment. Early admissions must be made directly to the Registrar unless otherwise articulated through an agreement with a local high school or school district.

The requirements for High School admission are outlined below:

- Written recommendation from the high school principal/counselor
- Current High school transcript with cumulative GPA as follows:
  Junior – 3.5 minimum GPA required (or top ¼ of class)
  Senior – 3.0 minimum GPA required (or top ¼ of class)
- A completed admission application
- Accuplacer test result
- Certificate of Indian Blood (CIB) or an official record of enrollment that indicates membership with a federally recognized Indian Tribe
- Signed NTU Alcohol and Drug Free Policy affidavit
- A signed parental permission form

No student below the junior level of high school will be admitted. An accepted student must follow the same academic guidelines required by the University and must maintain a "C" or better grade in all classes taken at NTU and cannot enroll in more than two (2) classes without special permission. *Note: These students are responsible for payments of tuition and fees.*

4. Dual Credit

Dual credit is for high school junior and senior students who wish to earn both high school credit and college credit at the same time. The dual credit option is available for New Mexico and Arizona high school students whose school district has a signed Dual Credit Memorandum of Agreement or Statewide Master Agreement with Navajo Technical University as well as home school students.

Requirements for dual credit admissions:

- Be enrolled at least part time as a junior or senior in a home school program or a high school in which the school district.
- Meet with their high school counselor to determine eligibility and available courses.
- Submit an NTU Dual Credit Application for Enrollment.
- Official Certificate of Indian Blood
- Current High School Transcript
- For New Mexico students: Submit a completed New Mexico Statewide Dual Credit Request Form.
- For Students under 18 years of age, Must have parent's signatures on all forms requiring Parents Signatures.
- Demonstrate college readiness for the course in which they intend to enroll by meeting the course pre/co requisites.
- Take Accuplacer placement examination for Math and English Placement.
- Register for approved courses.

5. Transfer Student Admissions

Students must indicate *all* institutions previously attended on their application.

- Official transcripts must be in a sealed envelope and preferably mailed directly from the institution to the NTU Registrar's Office. Institutions that send Electronic Transcripts are to be emailed directly to the Registrar only for it to be official. *Note: Transfer courses are not included in calculating the student's NTU cumulative Grade Point Average (GPA).*
- A Transfer Student who does not have a cumulative grade point average of 2.00 or on academic suspension will be referred to the Academic Counselor to be placed on an academic contract or education plan.

Transfer Credit Evaluation
Credits earned at regionally accredited institutions of higher learning are accepted. Pre-college credits are not transferable. Transfer credit will not be given without an official transcript.

- Transfer credit will be awarded for each college course level in which the student received a grade of "C" or higher.
- A limit of 30 credit hours may be transferred toward an associate degree and a limit of 15 credit hours may be transferred toward a certificate program. Students in the bachelor degree program who request to have their courses transferred will have a limit of 60 credit hours eligible for transfer.
- The courses must be taken within the ten year time limit of admission into the college. Credits over ten (10) years of age are subject to review prior to acceptance toward prerequisites and/or degree requirements in some program areas.
- Science courses in the Registered Nursing Program must be taken within eight (8) years from admission or they must be retaken.

Military Credit Evaluation
Military service credit is granted based on recommendation of the American Council of Education's "Guide to the Evaluation of Educational Experiences in the Armed Service" and institutional policies. No credit is granted for Military Occupational Specialty (MOS). To apply for military credit, submit a copy of the DD214 and a copy of any applicable training not listed on the DD214 to the Registrar's Office. The Veteran's certifying official is located in the Financial Aid Office,

(505) 786-4183.

6. Non-Degree Admissions

Applicants who seek to enroll in a course or courses, but do not seek a degree or certificate shall submit a NTU enrollment application and a CIB (Certificate of Indian Blood). For those younger than 18 years of age, approval of parent or guardian will be required. Students on non-major status are not eligible to receive financial student aid or student employment, nor are they eligible to participate in student government or intercollegiate athletics, or to receive benefits from any veteran's program.

7. Admission Requirements for International Students

- A completed NTU International Student Application
- Official High School Transcripts – Translated into English if in different language
- Official Test of English as a Foreign Language (TOEFL) scores
  - TOEFL scores must be less than 2 years old from date of Admissions.
  - Acceptable Scores: 500 paper, 173 computer base, 61 internet base.
- Financial Support Form
- Official College Transcript – Translated into English if in different language

Navajo Technical University complies with the Department of Homeland Security and Student and Exchange Visitor Program within the U.S. Immigration and Customs Enforcement (ICE). Upon NTU's issuance of an I-20 form to the student, each International student must comply with the following:

1. Must be enrolled as a full time student
   a. May only take one – three credit course online.
   b. Must have current I-20, attend the school stated on I-20.
2. Must be enrolled in a program of study that results in a degree, diploma or certificate
3. Must be proficient in English
4. May not work off-campus during the first year academic year.
5. Students are responsible for locating suitable housing.

6. Students are responsible for providing transportation to and from the college.
7. Health Insurance.
8. Keep local address updated. Student has 10 days to report a new address if local address is changed.

Accuplacer Testing

All new students are required to take the Accuplacer placement test to place students in the appropriate Math and English courses. 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. Contact numbers: Crownpoint: (505)786-4340 and 4337, Chinle: (928)674-3797 or 5765.

NOTE: Students who place lower on the Accuplacer placement test than the English or Math courses required by the program requirements for the certificate or degree they are seeking 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.

Career Assessment

New students will be given a career assessment to help determine if they have selected a field of study appropriate to their interests and skills. Students who are changing majors will also be required to take the assessment and obtain approval by the Career Counselor or his/her designee.

Denial or Cancellation of Admission

NTU reserves the right to deny or cancel the admission and/or registration of any student who has an outstanding debt at NTU. Any person found to have knowingly and willfully made false statements, furnished any false information, and/or concealed any material information will be subject to expulsion. NTU will not tolerate any such activity and will conduct a thorough internal investigation.

Appeal Procedure

Any student denied admission may submit a written appeal letter to the Registrar within 30 days of issuance of the notice of admission denial. The appeal letter shall detail the circumstances justifying reconsideration for admission. The student shall also submit supporting documentation that substantiates the appeal. The Registrar will then schedule a meeting with the applicant and the Dean of Student Services within 5 business days of receiving the appeal. The applicant will be notified of the appeals decision by mail within 10 business days of the meeting.

PROGRAM ADMISSION EQUIREMENTS

1. Admission Requirements for Commercial Driver License Program

The Commercial Motor Vehicle Safety Act of 1986 (CMVSA/86) is a law passed by the United States Congress which requires ALL the individual states to comply with certain standards in regards to the licensing of commercial motor vehicle (CMV) drivers. New Mexico driver licensing standards comply with the law, requiring CMV drivers to obtain a New Mexico Commercial Driver's License (CDL) when driving applicable trucks and buses. A CDL license can ONLY be issued in the driver's STATE OF LEGAL RESIDENCE, and if you have a CDL, you can have NO OTHER DRIVER'S LICENSE in ANY other state. The Commercial Driver License (CDL) program is offered at the main campus in Crownpoint, New Mexico and complies with the CMVSA/86.

Commercial Driver License (CDL) requires additional documents along with general admissions requirements:
- A valid New Mexico Driver's license (If applicant is between the ages of 18 – 24, applicant must show proof of completing a DUI Awareness class)
- Department of Transportation's physical exam form completed.
- A copy of driving record from the New Mexico Department of Motor Vehicles Division
- A copy of birth certificate
- 2 documents that show proof of physical

residence in New Mexico.

When all of the required documents are received and accepted by the Admission's Office, the applicant will receive a letter of acceptance to NTU.

2. Admission Requirements for Veterinary Technician Program

The mission of the Veterinary Technology degree program is to provide students with the academic, professional "hands-on" knowledge, and skills required to master the American Veterinary Medical Association's Veterinary Technology Student Essential Skills which will prepare students as entry-level veterinary technicians, to successfully pass the VTNE (Veterinary Technician National Exam), and to perform as effective veterinary health care team members. Students will exhibit conduct that reflects practice standards that are professional, ethical, and legal. Graduates of this program will recognize career opportunities in traditional and non-traditional settings such as private veterinary practice, biomedical research, academia, food safety, government agencies, zoos, and other animal health-related fields.

The length of time necessary for completion of the program is a minimum of 7 semesters. A minimum of 69 credit hours must be earned in specific coursework including general education and core program courses. Students must meet with the Program Advisor before registering for classes each semester. Students must pass the VTNE in order to apply for state licensure.

The following are requirements for admission into the Veterinary Technology Program starting 2016 Fall semester:

- Students must complete all general education courses prior to admission into program core courses. Students must maintain at least an overall G.P.A. of 2.5 for all required General Education courses and must earn grades of "C" or higher in BIO 120, CHM 120, ENG 110 (or ENG 111 or 112), MTH 121 and VET 090.

- Students must pass VET 090 Introduction to Veterinary Technology course (1 cr hr) with a

grade of "C" or higher which shall be completed while taking General Education courses.

- Students must pass all program courses with a 75% or higher in order to progress into the next semester courses.

- Students must submit a total of three (3) current letters of recommendation from the most recent six (6) month period. Two of the letters must be from high school teachers and/or higher education instructors, and one (1) of the three (3) letters may come from a community member, church official, or employer. Letters must be in sealed envelopes and sent directly to the Program Advisor by the individual making the recommendation.

- Students must submit a completed application with an essay (500-word maximum or less) on why they wish to study Veterinary Technology.

- The final requirement for admission into the Veterinary Technology Program will be to complete a live interview by a panel of faculty and Program Advisor.

4. **Admissions Requirements for Bachelor Programs**

- Freshman and Transfer students are required to have a CGPA of 2.5 in High School or from the transferring school or will be provisionally admitted into the Bachelor program
- All students must maintain a CGPA of a 2.0 once in the program
- Must not be on academic probation for the first two semesters
- Complete all prerequisite in the degree program
- Complete all General Education requirements and the 100-200 level courses within the first five semesters of the Bachelor Program
- See below for specific requirements for each Bachelor programs:

a. BS: Environmental Science and Natural Resources
- Each Freshman/First time applicant must be a High School graduate and have taken

the following in High School to be admitted into the ESNR program:
  o 2 year Mathematics: Algebra and Geometry
  o General Biology
  o General Chemistry
  o 2 Years of English
- Pass an Oral and Written Interview with the ESNR program committee

b. BFA: Creative Writing and New Media program requires

- A grade of C or above in ENG111 (Composition and Research) or equivalent.
- Creative Writing Sample.
- A letter of application to the program

c. Information Technology - New Media requires
- Cumulative average of 2.5 or better on all GE classes.
- Letter of Introduction/Statement of Intent (1 page). Faculty interested in your career goals, aspirations, creative and intellectual experiences. Include a 1 page resume.
- List of 5 Significant Media. In a brief paragraph for each medium, explain the significance of a film, TV program, book, website, music, play, video game, or other piece of New Media.
- Creative Project. Provide a 1 page detailed explanation of a creative idea for a project that you could pursue as a college student. Indicate your inspiration for the idea and discuss your creative ideas.
- Creative Sample/Portfolio/Demo Reel. As part of the application you are required to submit a portfolio of any creative work – short films, graphic design, website, illustrations, art, and animations. You must have written, directed, produced, shot and edited these samples. If you do not have a portfolio, prepare a short film or demo reel, no longer than 3 minutes for submission.
- Meeting with New Media advisor. Set a time to meet with your advisor to discuss strengths and weaknesses of your creative project, critical analysis, and creative sample/portfolio/demo reel.

- Create a graduation plan. Bring a copy of the New Media Program Graduation Checklist, all applicable transcripts, and present to the faculty your plan for completing the New Media program.

Program Admission Denial or Cancellation

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Re-admission

Students who have not attended Navajo Technical University for two consecutive semesters must reapply for admission. The student is responsible for providing all the admissions documents and will be required to retake the placement test if the Math and English requirement have not been met.

Students who were previously dismissed from NTU due to unsatisfactory academic performance (Academic Suspension), policy violations, or unacceptable behavior must submit a written request for readmission to the Registrar's Office. All requests will be reviewed on a case-by-case basis.

- Students with a previous history of substance abuse will be referred automatically to the Counseling Department for evaluation and recommendation of readmission.
- Students on academic probation will be referred to the academic counselor to be placed on an academic contract. Students on academic suspension must submit a request for readmission to the Registrar's Office and upon approval will be referred to the academic counselor and placed on an academic contract.
- All outstanding debts to the college have to be satisfied in order for a former student to be re-admitted. Students who have an outstanding account will be referred to the Business Office (student billing) to resolve their outstanding debt.
- No official college transcript(s) will be released to all requesting parties, f o r a student who has an outstanding debt to the college.

Accommodations for Students with Disabilities

NTU complies with the *Americans with Disabilities Act (ADA) of 1990* (42 U.S.C. 12102) and *Section 504 of the Rehabilitation Act of 1973* and is committed to make reasonable accommodations to meet the needs of students with disabilities. A student requesting for accommodations has the responsibility to self-identify and provide documentation when requesting accommodations, and discuss their needs with the Disability Accommodations Specialist in order to receive reasonable accommodations. Any documentation provided by a medical professional or a state license diagnostician should be made available to the Specialist. The University does not provide special education versions, IEP (Individualized Education Programs) plans, specialized progress reports, etc. Records regarding accommodations do not automatically transfer from high school to college. Such records can only be released or transferred with the written permission of the adult student (in cases where the student is under the age of 18, parent or guardian permission is required). Under federal law, family members are not provided with access to student information regarding special needs, accommodations or academic progress. Disability and accommodations related information and documentation are treated the same as medical information and handled under strict rules of confidentiality. Information is shared only on a limited basis within the college and then only when there is a compelling reason for the individual seeking the information to have knowledge of a special aspect of this confidential information. The Specialist may be contacted at (505) 786-4138.

Declaration of a Major

All students shall identify a major in a certificate or degree program, unless they are identified as Non-Major. Those who plan to earn a certificate or degree from NTU will have met the program placement requirements and officially have declared their major (program of study).

Certificate Programs

Upon successful completion of a specific career program listed in the catalog, students will receive a certificate if they have passed all the required coursework, including general education requirements, earned the required credits, maintained a cumulative GPA of 2.00 or better, and have satisfied any outstanding debt to the college.

Degree Programs

Students enrolled as degree candidates in one of the Associate or Bachelor degree programs will receive their degree if they pass all of the required coursework, including general education requirements, earned the required credits, maintain a cumulative GPA of 2.00 or better, and have satisfied any outstanding debt to the college.

- **Associate Degree**

  Associate of Applied Science (AAS) Degree: An AAS degree program prepares students to enter either skilled or paraprofessional occupations or to upgrade workplace skills and knowledge. An AAS program is not intended to transfer to a bachelor's degree, although certain courses may be accepted at some institutions. The exception to this rule is when an AAS is used to enter a BAS program.

  Associate of Arts (AA) Degree: An AA degree provides a foundation in general education including courses in mathematics, humanities and social sciences, communication, and natural sciences. Students may transfer their degree credits to a four-year institution to pursue a bachelor's degree in the arts or sciences.

  Associate of Science (AS) Degree: An AS degree is an associate degree in the areas of science, technology, engineering, mathematics (STEM) or in an area of career technical education (CTE) such as Early Childhood Education.

- **Baccalaureate Degree**

  Bachelor of Arts (BA): Graduate and professional schools typically require a four-year BA or BS for admission. The curriculum of a traditional BA degree is centered on providing a well-rounded, liberal arts education. Students pursuing a BA are not required to have an associate's degree.

  Bachelor of Science (BS): BS programs normally require a student to take the majority of their courses (usually 1/2 or 3/4) in the sciences, namely life sciences, physical sciences, engineering, or the mathematical sciences. Graduate and professional schools typically require a four-year BS or BA for admission. Students pursuing a BS are not required to have an associate's degree.

  Bachelor of Applied Science (BAS): An undergraduate degree that focuses studies on an applied science with hands-on projects or fieldwork. A BAS degree is designed for students that work immediately after graduation; they are more focused on vocational subjects. Students pursuing a BAS degree normally build on an Associate of Applied Science degree.

Change of Major

Any student who wishes to change his/her major after registering will need to submit a Change of Major form to the Registrar. The student will be required to meet with the Career Counselor for a Career Interest Profile and the Financial Aid Officer for approval. No changes shall be allowed after the deadline for the last day to register for that semester. Changing a major could affect eligibility for student federal aid, for more info see the financial aid section of this catalog.

Enrollment Status

1. *Regular*: Regular admission is intended for the student seeking a degree or certificate at NTU. This includes students continuing from the previous semester who are in good standing and transfer students who are in good standing from their previous college/university.

2. *Provisional*: Students who are on Academic Probation or Suspension at other schools and have a cumulative grade point average(CGPA) less than 2.0; or students who do not have a high school diploma/transcript that indicate they have passed competencies required and opted to take 6 credit hours of courses as stated in the admission requirements.

3. *Transfer Student*: Any transfer student seeking admission to NTU who intends to work toward a degree or certificate from NTU should apply for regular admission. Applicants are required to submit official transcripts from all regionally accredited colleges or universities. NTU accepts transfer credit for courses that have a grade of "C" or better and if an equivalent course is offered at NTU. No special topic classes will be accepted for transfer. A limit of 30 credit hours may be transferred toward an associate degree and a limit of 15 credit hours may be transferred toward a certificate program. Students in the bachelor degree program that request to have their courses transferred will have a limit of 60 credit hours eligible for transfer. The courses must be taken within the ten year time limit of admission into the college.

4. *Non-Major Status:* A student who does not want to earn a degree or certificate is classified as a non-degree/major student. Non-degree/major students may request to change to certificate/degree status and apply credits earned while in non-degree status by declaring a major. *Note*: *Non-majors will not satisfy eligibility requirements for federal student aid, veteran's educational benefits or other financial aid assistance.*

5. *Concurrent Enrollment:* A student who is enrolled at NTU and also at another institute of higher learning should understand that federal student aid will be disbursed by only one Institution, but charged by each institution. Students should go to the Financial Aid Office to obtain more information about concurrent enrollment and financial aid.

6. *Dual Enrollment:* A student currently enrolled in high school and enrolled in one or more courses at NTU is considered to have dual enrollment. NTU has an agreement with various Secondary School Districts and negotiates the tuition and fees of participating students. Students need to obtain more information from their high school counselor. Otherwise students may opt to make payment for NTU courses at the Business Office.

REGISTRATION INFORMATION

Registration Procedures

Registration is the process of selecting courses, receiving a class schedule, and completing enrollment at Navajo Technical University.

- Students admitted on regular status can pre-register for courses through the Registrar's office;
- Students who register for classes late will be assessed a late registration fee.

Change of Address/Name

It is very important that the student keep the Registrar's office informed of any changes made, including name, mailing and home address. To make the address/name change, forms are available at the Registrar/Admissions office. Name changes require a copy of the Social Security Card indicating the new name.

Student Identification Number

NTU assigns a Student ID number upon admission to the university. Student ID is required when purchasing books, meals, library and for transportation.

Student Orientation

Student orientation is conducted at the beginning of each semester, including the summer session. Students are informed of NTU Policies and Procedures in order to help them become acquainted with campus life. All new and transfer students are expected to attend student orientation. It is the sole responsibility of the student to become familiar with all information regarding their status as a student at NTU.

Advisement

All students enrolling have options to meet with a Program advisor or an Academic Advisor/Counselor.

- All certificate and degree seeking students are required to consult with their assigned program advisor before registering for classes. These advisors plan student schedules by following the program checklist and provide guidance throughout their academic enrollment.
- New or undecided students may see the First Year Experience Academic Advisors in the Counseling Office.

Schedule of Classes

The Schedule of Classes is an official publication of courses offered and distributed each semester/session. The schedule lists the semester's course offerings, dates, times, place, and instructor.

Add/Drop Procedures

Students wishing to drop individual classes or withdraw from NTU completely must do so by the official drop/add deadline. Students are responsible for initiating a course drop, or they may be dropped by their instructor for non-attendance. Such changes could affect a student's financial aid, scholarship, and/or refunds. Students who officially drop classes after the drop/add date are responsible for payment of tuition and any other fees. Students who do not properly withdraw are responsible for University fees that are non-refundable.

Students wishing to add individual courses must do so by the official deadline. Any requests after the deadline will not be granted. All drop/add changes must be completed through the Registrar's Office.

Enrollment Withdrawal Procedures

In the event a student cannot attend classes after final registration of classes, it is the student's responsibility to withdraw from the college before the Enrollment Withdrawal deadline. Withdrawal forms are available in the Registrar's Office. Students who withdraw after the withdrawal date on the calendar will be responsible for any outstanding financial accounts. Withdrawing past the Official Withdrawal date requires the instructor to assign a grade of an "F" and is included in the transcript. The grade of F will be counted as failing grades which will be included in the calculation of the grade point average. Students who do not officially withdraw by the drop/add

deadline will be responsible for tuition and fees in accordance to the Tuition Refund Policy.

Completion of Student Courses

Students are responsible for completion of all courses in which they are enrolled at the college. Changes in enrollment, drops or withdrawals must be officially recorded on college records. A student not following proper course or withdrawal procedures will receive a failing grade.

Cancelled Classes and Schedule Changes

NTU retains the right to cancel, reschedule, or combine courses, and to change instructors for any NTU course. Courses will be cancelled or combined after the last day of the add/drop deadline if they do not attain minimum enrollment. The Dean of Instruction shall coordinate with the Registrar to determine which courses will be cancelled. Classes cancelled because of inclement weather will not be automatically rescheduled. The instructor may make arrangements to make-up the class.

Final Examinations

Final examinations are given at the end of each semester. Students must take their final examinations during the scheduled time period. Students who fail to take final examinations may receive a failing grade and jeopardize their academic status

Transcripts

The Registrar's office issues both official and unofficial copies of NTU student academic records. A fee is charged for all official transcripts. The Family Educational Rights and Privacy Act of 1974, as amended, prohibit the release of student transcript record or disclosure of its contents to any third party without the written consent of the student. Contact the Registrar's office or NTU website for more information.

The Registrar may place a Hold on a transcript (official and unofficial) when a student has an outstanding debt to the college. No official transcript will be released to the student or to any other person or institution until all of the student's outstanding obligations to the university have been paid.

STUDENT RECORDS AND CONFIDENTIALITY

Student records are maintained confidentially in accordance with the Federal Family Educational Rights and Privacy Act (FERPA) of 1974. This law protects the privacy of a student's educational records by establishing the right of students to inspect their records and providing guidelines for the correction of inaccurate or misleading records. FERPA applies to all schools that receive funds under U.S. Department of Education programs.

Accordingly, NTU has adopted the following policies:

1. No document in a student's record or transcript will be released without the student's written authorization unless it is for NTU faculty and/or staff who have a need to know, in order to comply with a judicial order, or for emergency health and/or safety purposes.

2. Before NTU can release information to employers or other institutions, the student must have a signed Release of Information form on file.

2. The following information, categorized by the law as "directory information," may be released without the student's consent unless the student requests the information be withheld:
   - Name
   - Dates of attendance and graduation
   - Program(s) enrolled in or graduated from
   - Educational majors, awards, and certificates
   - Videotapes or photos of students participating in NTU activities

FERPA allows schools to disclose those records, without consent, to the following parties or under the following conditions (34 CFR § 99.31):
   - School officials with legitimate educational interest;
   - Other schools to which a student is transferring;
   - Specified officials for audit or evaluation purposes;
   - Appropriate parties in connection with financial aid to a student;
   - Organizations conducting certain studies for or on behalf of the school;
   - Accrediting organizations;
   - To comply with a judicial order or lawfully issued subpoena;
   - Appropriate officials in cases of health and safety emergencies; and
   - State and local authorities, within a juvenile justice system, pursuant to specific State law.

If a student does not wish to have this information released, a request for non-disclosure of directory information must be submitted in writing to the Admissions/Registrar's Office. This request must be submitted by the student within the first two weeks of their first semester and is valid until the student withdraws their request for non-disclosure by providing written authorization for the release of that information.

3. Students have the right to examine their official file. Requests to examine student records should be scheduled in advance with, and performed under, the supervision of the Registrar. The student must submit a written request to the Registrar requesting the documents to be reviewed and indicating which documents are to be reviewed.

4. Students may submit a written request to the Registrar to amend a record that is believed to be inaccurate or misleading.

5. Students have the right to file complaints with the Family Policy Compliance Office of the U.S. Department of Education concerning any alleged failures by NTU to comply with the FERPA.

ACADEMIC REGULATIONS

Academic Integrity

The integrity of an academic program rests on the principle that the grades awarded to students reflect only their own individual effort and achievement. Students are required to perform the work specified by the instructor and are responsible for the content of work submitted such as papers, reports, and examinations. The use of another person's ideas or work claimed as your own without acknowledging the original source is known as plagiarism and is prohibited. A student reported for plagiarism or cheating will be referred to the Dean of Instruction and will be subject to disciplinary action, including possible expulsion from NTU.

Plagiarism

According to the fifth edition of the MLA Handbook for Writers of Research Papers, "to use another person's ideas or expressions in your writing without acknowledging the source is to plagiarize. A writer who fails to give appropriate acknowledgment when repeating another's wording or particularly apt term, paraphrasing another's argument, or presenting another's line of thinking is guilty of plagiarism."

Different disciplines use different documentation methods; therefore, students should consult instructors about the correct use of the appropriate documentation style. Additional resources and guidance in the correct use of sources can be obtained from the English faculty at NTU.

Course Load

The normal load for a full-time college student is 12-16 credit hours. An overload is 17 or more credit hours per semester. Students are allowed to register for a maximum of 21 credit hours per semester in the fall and spring. The normal load for a full time student during the summer session is 6 or more credits. *(Full Financial Aid requires 12 credit hours.)*

Credit Overload

An overload is 17 or more credit hours per semester. Students in good academic standing must obtain permission from the Dean of Instruction if they want to attempt a credit overload. An *Overload* form signed by the Dean of Instruction must be submitted prior to registering for the course.

- First semester students (not including transfer students) or students on academic probation or pro-visional admission will not be allowed to register for more than the allowed credit hours recommended by their Academic Advisor.
- A student should be in good standing (maintain a cumulative of 2.50 or better.) The Dean will require a copy of the student's transcript to verify academic standing and also the registration form of courses already registered for in order to verify credit hours.

Credits Granted for Hours Completed

A completed semester hour represents a minimum of eight hundred (800) minutes per credit per semester. One lab semester hour represents a minimum of one thousand sixteen hundred (1600) minutes per credit per semester. One credit hour is awarded for 150 minutes of contact in a shop session per week. For every credit hour spent in class, a student is expected to spend two hours outside of class studying the course materials. For a hybrid or blended course of one (1) credit hour, a student is expected to spend three (3) hours per week studying the course materials. For an online course of one (1) credit hour, a student is expected to spend four (4) hours per week studying the course materials.

Student Academic Classification:
- *Freshman:* A student who has completed 30 or less credits.
- *Sophomore:* A student who has completed 31 – 59 credits.
- *Junior:* A student who has completed 60 – 90 credits.
- *Senior:* A student who has completed 91 or more credits.

English/Math Placement

All new students are required to take the Accuplacer placement test to help assess the student's Math and English skills in order to place students in the appropriate course level, according to their abilities. Students with low scores may be

required to complete remedial studies coursework prior to entering their chosen major. Transfer students who have successfully completed English and Math courses comparable to those required by their certificate/degree programs with a "C" or better at another institution (as recorded on an official transcript) should complete a Course Transfer form and submit to the Registrar for review.

Attendance Policy

Students are expected to regularly attend all classes for which they are registered. A percentage of the student's grade will be based on class attendance and participation. In certain courses, the weight placed on attendance may be considerably more due to the nature of the course work and required assignments. Absence from class, regardless of the reason, does not relieve the student of his/her responsibility to complete all course work by the required deadlines. Furthermore, it is the student's responsibility to obtain notes, handouts, and any other information covered when absent from class and to arrange to make up any in-class assignments or tests if permitted by the instructor. Incomplete or missing assignments will affect the student's grades. Some instructors may drop students from the class after three (3) absences unless prior arrangements are made with the instructor to make up work and the instructor deems any excuse acceptable.

Early Alert Program

The Early Alert Program is overseen by the Counseling department and coordinates with the Faculty. The Early Alert Program focuses on students who are experiencing difficulties such as excessive absences and/or tardiness, low test/quiz and assignment scores, incomplete homework or make-up exams, at risk of being dropped from class, inappropriate placement at course level, and need of basic skills. Faculty will identify students and submit a referral notice to the academic counselor. The academic counselor will consult with the student to provide appropriate early intervention and reasonable accommodation to help the student.

Early Alert procedures for absences and other academic referrals:
1. Instructor will make the referral on the Early Alert Referral form directly to the Counselor.
2. The Counselor will notify and meet with the student concerning the referral and appropriate intervention. At times the counselor will schedule a meeting with the student and the instructor to address any issues.
3. In the case of absences, the student will complete the Student Absence Report form and obtain the instructor(s) signature to resume class attendance. It will be the decision of the instructor as to whether the absence is excused or not for his/her class.
4. Excessive Absences (excessive absence without notification by the student):
   a. A Counselor is notified by the Instructor of the excessive absence. Student is officially notified by the Counselor's office to respond by the deadline. If the student does not respond the Instructor will be asked to submit an *Instructor Initiated Withdrawal* form on the student and indicate last day of attendance. A grade will be given in accordance to the withdrawal deadlines on the calendar. This grade will be on the transcript.
   b. If the student responds, a meeting is held with the student, a counselor, and the instructor or the Dean of Instruction to make an appropriate decision.
   c. Decisions may consist of dismissal or voluntary withdrawal from class/NTU or require a signed attendance contract with stipulation to resume enrollment.

Copyright Guidelines

It is the policy of the Navajo Technical University to respect the rights of copyright owners and to follow the Copyright Act, 17 U.S.C. § 101 et seq. The NTU copyright guidelines present the university's position regarding use of copyrighted works. The guidelines should keep students within the law, but NTU is not responsible for any individual's compliance or lack thereof with the law. Every person who uses NTU resources should abide by these guidelines. Failure to follow the guidelines may create individual liability for copyright infringement (Resolution CIT-FEB-605-05).

A member of the NTU administration, faculty, staff or student body who violates these policies can be

disciplined by the NTU Board of Trustees or its designated administrative officers. This discipline could include failure to pass an assignment or a course, suspension, expulsion or dismissal.

If you have any questions about these guidelines, feel free to discuss them with your instructor, your department chair, the NTU Information Technology staff, or with the Dean of Instruction. The detailed guidelines are available in the NTU Student Handbook.

Student Academic Standing

The academic progress of all enrolled students will be reviewed at the end of each semester. Students must maintain a cumulative Grade Point Average (GPA) of 2.00 or greater to remain in satisfactory academic standing and progress toward a certificate or degree, and/or to be eligible to graduate.

Academic Probation

Academic probation is a condition of student academic standing for students who fail to maintain a cumulative grade point average (CGPA) of a 2.00 by the end of the current semester. If a student's CGPA is 1.99 or below at the end of the semester, that student will be placed on academic probation. The Registrar will notify the student in writing that he/she is placed on academic probation and will refer the student to the Academic Counselor. A student placed on academic probation will not be allowed to pre-register for the next semester, unless approved by the Academic Counselor. A probationary contract will be developed to include mandatory counseling and tutoring. The student will be given two semesters (summer session is considered as a semester) to bring his/her cumulative grade point average to a 2.00 or better. If the student raises his/her CGPA to a 2.00 or better within the allotted time, he/she will be removed from academic probation status the following semester or summer session.

NOTE: Transfer students who were on academic probation at another institution will be placed on probationary status therefore requiring mandatory counseling and tutoring.

Academic Suspension

If the student does not meet the minimum cumulative GPA of 2.00 by the end of the second consecutive semester (or summer session) while on academic probation, he/she will be placed on academic suspension the following semester and will not be allowed readmission for one semester. The Registrar will notify the student in writing that he or she is placed on academic suspension. The student can reapply and request in writing for re-admission to the Registrar but will remain on suspension until he/she raises his/her CGPA to 2.00 or better and are ineligible for any federal student aid. If allowed readmission, the student will be referred to the Academic Counselor and placed on an Academic Contract to include mandatory tutoring and counseling.

Right to Appeal

Students wishing to appeal academic probation or suspension must do so in writing to the Dean of Instruction within ten (30) working days of the postmark of the letter.

The Dean will review the documents and reply with a decision within ten (10) working days of receiving the appeal. The Dean's decision is the final decision.

NOTE: Student Financial Aid Probation and Suspension Appeal procedure is explained in the Financial Aid Policy section of this catalog.

Grading Standards

The letter grade of A, B, C, and D indicate passing grades. A grade of D, however, is not transferable to another school, nor does it allow the student to progress to the next level course in that subject area at NTU. A grade of incomplete (I) is considered none passing grades and don't result in earned credits.

Grading System

The following letter grades and grade points are used at NTU:

Letter Grade	Percentages	Description	Grade Points
A	90 - 100%	Excellent	4
B	80 – 89.9 %	Above Average	3
C	70 – 79.9 %	Average	2
D	60 – 69.9 %	Below Average	1
F	Less than 60%	Failure	0
I		Incomplete (No Credit)	None
W		Withdrawal	None
AU		Audit	None
CR		Credit by Examination	None
P/F		Pass/Fail	None

Incomplete

An "I" may be issued when unforeseeable circumstances beyond the student's control prevent the student from completing course requirements. Incomplete grades will not be authorized when the student has failed to complete course requirements or has earned a failing grade due to personal negligence. An incomplete grade must be converted to a credit grade by satisfactorily completing the required assignments within the adjusted deadline (arranged between the instructor and student) of the following semester. A student does not have to reregister for the course if completed within the stated deadline. The Incomplete grade must be converted by the next semester otherwise the "I" will automatically convert to an "F". The instructor must complete and submit an *Incomplete Form* to the Registrar's office.

Audit

An Audit (AU) is awarded for class participation and does not indicate proficiency in the subject matter. Course credit is not included in the GPA or cumulative GPA. Forms are available at the Registrar's Office. Audit courses accumulate charges as a regular course. Audit courses are counted towards attempted hours but not eligible for federal student aid.

Credit by Examination

Credit and grade are given upon completion of examination of a course that is challenged by the student. Only a grade of CR is recorded on the student record if the examination is passed with an 80%. Students may not have attempted the course at the university. The responsibility for preparing for these examinations is entirely on the student. The current tuition rate per credit hour applies before examination. The student request for challenging the course may be picked up from the Registrar's office.

Course Withdrawal

Used for student, instructor and/or administrative withdrawals from a course before the withdrawal deadline date.

Pass/Fail

Some courses are graded on a pass/fail basis and will not be included in the computation of the GPA.

Course Repeat Policy

NTU's Course Repeat Policy permits a student to repeat a course and to have the grade for the repeated course computed in his/her GPA in place of the original grade. Normally, course repeat only applies to a specific course that a student chooses to repeat. The repeated course must be taken under the standard grading system (A-F) and the latest grade must be "C" or higher. Grades of "W" are not permitted. All grades shall remain on the student's transcript. The original course grade will be annotated with "R" to indicate that the course has subsequently been repeated.

This applies to courses with identical course abbreviations and numbers except for the following: topics and cooperative educational courses, and when course abbreviations and numbers change as a result of new programs and/or program revisions. Students who are repeating courses that had a grade of "D" or "F" for the third time will not be eligible for financial aid assistance and have to pay for the course(s) on their own.

NOTE: The NTU Course Repeat Policy applies only to courses originally taken at NTU and repeated at NTU.

Grade Changes

All discussions regarding grade changes should be directed to the instructor of the course in question. If there is a grading error, the instructor must submit a grade change to the Dean of Instruction for approval. The Dean of Instruction will forward the approved Grade Change form to the Registrar who will record the grade and update the student's transcript.

Grade Appeal

Students who believe they have received a grade in error should informally meet with the instructor to determine if a clerical error has occurred. If the instructor has erred in submitting the grade, the instructor will submit a grade change form with the Registrar's office. If the error occurred due to a clerical error in the Registrar's office, the instructor should request that the grade be corrected. If discussions with the instructor do not resolve the issue, and the student believes he/she has a justifiable grade appeal, he/she should submit a Grade Appeal form. Any appeal of a grade by a student must be initiated no later than the end of the semester following the semester in which the grade was awarded. Summer session grades must be appealed before the end of the fall semester following the summer class. Forms are available in the Registrar's Office.

The grade appeal process:
1. The student must submit a Grade Appeal form with supporting documents to the Dean of Instruction and a copy to the Registrar's Office for record keeping.
2. The Dean of Instruction will review the appeal and assign a person to investigate.
3. The assigned person will request a copy of the syllabus and documentation pertaining to attendance and grades, and a copy of the student's Grade Appeal form.
4. After investigation, the assigned person will submit a report to the Dean of Instruction of the findings.
5. The Dean of Instruction will make a final decision. A report of the final decision will be placed in the student's master file located in the Registrar's office.
6. The student will be notified of the decision.

Petition for Course Substitution

All students are expected to satisfy all NTU certificate and degree requirements. However, under certain circumstances, substitutions for required courses may be necessary and appropriate. To initiate a course substitution, students should complete the "Course Substitution" form with approval from his/her advisor and the Dean of Instruction, which must then be submitted to the Registrar's office. This form can be obtained from the Registrar's Office.

Independent Study

Under unusual or special circumstances a student and instructor of a regular University course may adapt the course to an Independent Study. The arrangement is subject to approval of the Department Chair and the Dean of Instruction. Registration for an independent study course must be completed and approved no later than the last day of Drop/Add. Department Chairs will determine which courses are eligible for Independent Study. Forms are available at the Registrar's office.

A full time faculty member may supervise and offer an independent study courses during a semester or summer session and is restricted to no more than two graduating students. No more than six credit hours may be taken in any one semester.

- The student must agree in writing to a syllabus that outlines the learning objectives, texts, course requirements, evaluation criteria, meeting dates and examination dates for the course. A final assessment or examination is required for independent study courses. However, the role of final examinations for independent study courses may vary based on the intended outcomes for the course. Department Chairs can approve a nontraditional final examination in such cases *(e.g., a portfolio of the student's work, a thesis or substantial paper, a take-home examination)*.
- Students should devote a minimum of three hours each week for each credit hour of independent study, or at least nine hours per

week for a three-credit independent study course.
- The student has a term grade point average of at least 2.50 from previous term.
- The student should not be on academic and financial aid probation status during the semester that the student would take the program course through independent study.

Honors and Awards

At the end of every term, students who have maintained a cumulative GPA of 3.00 or above are recognized for their achievement.

The Honors List recognizes academic excellence on a semester to semester basis. The student must be enrolled full time in a certificate or degree program, have completed 12 or more credit hours, received no grades of "I", have no violations of any NTU policies, have maintained good class attendance, and be in good academic standing. Honors List will be determined by the Registrar's office and confirmed by the Dean of Instruction.

Presidential Honor List: Students must achieve a cumulative grade point average of 4.00.

Dean's Honor List: Students must achieve a cumulative grade point average of 3.50 to 3.99.

Graduation Honors: At the graduation ceremony, students who have achieved a cumulative GPA of 4.00 will be recognized with a blue honor cord and students who have achieved a GPA of 3.50 to 3.99 will be recognized with a gold honor cord.

Graduation with Honors:

Summa Cum Laude: Graduates with a cumulative GPA of 3.90-4.00
Magna Cum Laude: Graduates with a cumulative GPA of 3.70-3.89
Cum Laude: Graduates with a cumulative GPA of 3.50-3.69

American Indian Higher Education Consortium Student Congress Outstanding Student of the Year

A student is nominated based on his/her academic and personal achievements within the guidelines provided by the American Indian Higher Education Consortium (AIHEC). This student represents NTU at the national level and is eligible to receive a monetary award. The recipient is also recognized at and participates in the NTU graduation ceremony. The Financial Aid Office is responsible to receive all nomination packets and submit to the President for review and final selection.

Catalog under Which a Student May Graduate

Students who have been admitted should follow the catalog program requirements in effect at the time of their initial enrollment unless they have withdrawn (i.e., "stopped out") and returned after two semesters or changes are required for certification requirements or licensures. In such cases, the current year catalog applies and students are expected to follow the requirements for completion of their certificate or degree. To maintain the catalog program requirements in effect at the time of their initial enrollment, students must remain in continuous attendance. Continuous attendance is defined as attendance in at least one course at NTU for one semester in any one calendar year. Students may choose to qualify for graduation under the requirements in effect either: at the initial enrollment or during subsequent terms of continuous enrollment.

Note: Students who have been academically disqualified may lose continuous attendance rights.

Graduation Requirements

To be eligible for graduation and participation in commencement exercise, students must meet the requirements for a degree or certificate.

- Submit a completed graduation petition and degree checklist with the Registrar's Office prior to the deadline. The Registrar will audit the graduating candidate's course/grades and recommend eligibility for graduation according to curriculum requirements as stated in the catalog. The official graduate listing of candidates are approved by the NTU Board of Regents.
- Pay in full all outstanding accounts to the college. All financial obligations must be cleared before being issued a certificate or degree.
- Return all Library books and checked out materials.

- Complete the university exit survey and the student career graduate survey.

It is the responsibility of the student to complete all graduation requirements and submit a petition to graduate to begin the auditing process. Participation in the commencement exercises does not mean that a student is considered a graduate.

Issue of Degree or Certificate

Certification of final approval for a degree or certificate will be placed on the student's official record at the end of the semester when all requirements have been completed and final grades certified. Degree and certificate documents are mailed to students within two months after the semester concludes when all final grades are certified and all financial records are cleared. Students must have a cumulative grade point average of 2.00 or above and must meet all minimum course grade requirements as set forth in this catalog for the specific degree or certificate sought. For further information contact the Registrar at (505)786-4180.

Note: Students with outstanding accounts will not be awarded their official transcript, certificate or degree until payment is complete.

Graduation Regalia

Appropriate university cap and gown are required for the commencement exercise. Traditional attire may be worn under the gown and is encouraged. The cap and gown signifies the completion of a college degree or certificate program. In respect to the earned degree the following was adopted by the university.

- *Certificate Programs*: Students wear the traditional caps and gowns in red.
- *Associate Degrees*: Students wear the traditional caps and gowns in Black
- *Bachelor Degrees*: Students wear the traditional caps and gowns in White with Bachelor Hoods in school colors.
- *Faculty* caps and gowns are worn based on the earned degree from their perspective colleges and universities.

Cap and gowns are ordered through the Registrar's Office.

FINANCIAL AID

Financial aid is financial assistance provided to eligible students through the Financial Aid Office in the form of grants, part-time work, and scholarships to help pay the cost of attending college. Financial aid is routed through federal, state, and local agencies and programs. These may include scholarships, Federal Pell Grants, Federal Supplemental Educational Opportunity Grants (FSEOG), Federal Work-Study Program (FWS), Navajo Nation Scholarship, and American Indian Scholarship Fund. Aid eligibility is determined by a formula established by the Department of Education and an analysis of the family's financial information and demonstrated need using the Free Application for Federal Student Aid (FAFSA). Additionally, students must be seeking a degree or certificate to obtain financial aid. Financial Aid Applications can be obtained from the Financial Aid Office at Navajo Technical University. To speak with a financial aid officer on campus, please call the Financial Aid Office at (505) 786-4183 or (505) 786-4309 or go to rooms 145/146 in the Empowerment Center. The Financial Aid Office in Chinle is (928) 674-5772

Students pursuing a certificate, associate or bachelor degree programs are encouraged to apply for financial aid to offset their cost of attendance at Navajo Technical University (NTU). NTU administers federal, state, tribal, institutional grants and scholarship programs to assist students based on their financial need and/or academic merit. NTU provides equal opportunity for financial assistance to eligible students through federal, tribal, state, institutional, and private sources regardless of sex, color, age, or other circumstance.

Student must have a high school diploma or equivalent, and must be a U.S. citizen or eligible non-citizen. Male students must comply with Selective Service registration requirements.

All students must complete the following as early as possible:
- Free Application for Federal Student Aid (FAFSA) online at www.fafsa.gov. The FAFSA/ISIR response will determine a student's Expected Family Contribution (EFC).
- Additional financial aid information is available at NTU's Financial Aid Office and online at http://www.navajotech.edu.

Cost of Attendance (COA)

Navajo Technical University has established a cost of attendance (COA) for Dependent and Independent students as well as for students living in Residence Life on main campus. The Pell Grant award is based on the COA and student/parent's EFC – expected family contribution; therefore, no two student's awards are exact. A cost of attendance (COA) example for an On Campus student living in the dorm/Residence Life for one semester:

COA Example	
Tuition and Fees	$1,380
Books and Supplies	$800
Room and Board	$2,280
Transportation	$ 800
Personal	$1,250
Total Estimated COA:	**$6,510**

- Direct costs for student in dorm: Tuition & Fees, Books & Supplies and Room & Board.
- Indirect costs: Transportation and Personal expenses.

Award Example: On Campus student, enrolled Full-time and EFC = 0

Award Example			
Pell Grant	$2,865	COA	$6,510
Navajo Nation	$2,000	Less Total Aid	$4,865
Total Aid	**$4,865**	**Unmet Need**	**$1,644**

Award Amounts vary based on several factors:

- Enrollment Status
- Expected Family Contribution (EFC)
- Satisfactory Academic Progress (SAP)
- Program of Study – Degree Program
- Dependent or Independent
- Child care expenses

Satisfactory Academic Progress Policy (SAP)

Federal regulations require NTU to establish satisfactory academic progress standards for students who are receiving Title IV financial assistance. NTU's Financial Aid Office reviews grades at the end of each semester for certificate program and the end of the academic year for Associates and Bachelor degree programs. Measures in satisfactory academic progress are in the following areas: grade point average (GPA), completion rate or pace, maximum timeframe and Pell Lifetime Eligibility.

Students receiving financial aid must make satisfactory academic progress toward the completion of a certificate or degree program. NTU has both a qualitative and quantitative measure of academic progress:

Qualitative Standard:
- Minimum grade point average (GPA)

Quantitative Standards (Pace):
- The maximum timeframe a student has to complete a degree,
- A minimum percentage of courses attempted must be passed, and
- A maximum number of courses from which a student is allowed to withdraw or drop.

Semester Hour Load	67% Minimum Completion Rate per Semester
Full-Time (12 Credits or more)	Must satisfactorily Complete 8 credits
Three-Quarter Time (9-11 Credits)	Must satisfactorily Complete 6 credits
Part-Time (6-8 Credits)	Must satisfactorily Complete 4 credits
Less than Half-Time (1-5 Credits)	Must satisfactorily complete the number of hours funded

NOTE: Grades of F, I, W, or IP are not accepted as passing and could affect eligibility for future financial aid. (See "Student Academic Standing" in this Catalog).

SAP Impact of Course Repetition, Withdrawals, Incompletes, Transfer Credits, Changes in Major

Course Repetition

Repeat credits are applied when a student repeats a course in order to improve a grade. Students are allowed to repeat any previously passed course and have it count toward enrollment for financial aid eligibility only once. Each attempt at the course, however, will count toward a student's pace and maximum timeframe.

Official Withdrawal

A school's SAP policy cannot exclude "W" grades in SAP reviews. Withdrawal hours are assigned when a student withdraws from a class after the drop period. Withdrawal hours count as credit hours attempted to- ward both pace and maximum timeframe.

Unofficial Withdrawal

An unofficial withdrawal occurs when a student does not successfully complete any courses (receives all "F" grades), stops attending classes, or did not complete any coursework. A student with an unofficial withdrawal may be required to repay up to 50% of his/her financial aid received for the term. Students who never attended any of their classes and did not complete any course work are required to repay 100% of the financial aid received for the semester or summer term. Non-attendance does not relieve students of the financial responsibility for tuition charges once they are registered for a class.

Incompletes

Incomplete (I) is a temporary grade that is assigned only in exceptional circumstances. It will be given only to students who cannot complete the work of a course on schedule because of illness or other circumstances beyond their control. Once an official grade is received, students should notify the Financial Aid Office.

Transfer Credits

Coursework taken at another institution that is accepted and officially transfers as transfer credit by NTU will count as both attempted and completed credit hours toward pace and maximum timeframe. Students who exceed the maximum timeframe can submit a SAP Appeal to determine if their aid can be reinstated.

Change in Major

Students who have changed majors or are pursuing a second degree may reach their maximum timeframe before their program of study is complete. All credits attempted are treated in the quantitative, qualitative, and maximum timeframe standards for SAP.

Financial Aid Information

For general information about the Free Application for Student Financial Aid (FASFA), or to obtain Federal Student Aid publications, call this toll free number**: 1-800-4-FED-AID (1-800-433-3243)**

To check on the processing of your federal student financial aid application, or to request a copy of your Student Aid Report (SAR) call: **1-319-337-5665** (this is not a toll free number)

The FAFSA school code for Navajo Technical University is **016119**.

Montgomery GI Bill

Navajo Technical University is a "deemed approved" school that supports our Veterans who served by providing certificate and degree programs. Veterans considering applying for GI Bill benefits should go online: gibill.va.gov to access the Veterans On-Line Application (VONAPP) website to complete their VA form 22-1990. The NTU Financial Aid Officer will then certify those courses that are on the certificate or degree plan. Any questions regarding education benefits should be addressed to the call center at 1-800-983-0937. The Navajo Technical University Veteran's certifying official is located in the Financial Aid Office, 505-786-4183.

Financial Aid Websites:

Student Guide	http://studentaid.ed.gov/students/ publications/student_guide/index. html
FASFA	http://www.fafsa.ed.gov/
Federal Student Aid	http://studentaid.edu.gov/PORTA LSWebApp/students/english/inde x.jsp
American Indian College Fund	http://collegefund.org

Additional Degree(s)

A student who already has an equivalent of an AA or AS degree (or higher) does not qualify for additional Pell Grant funds unless he or she is seeking a Bachelor of Science degree.

Repeat

Students may repeat courses previously taken at NTU to better their understanding or to improve their grade. A transcript shows that the course was repeated, but only the higher grade is used to compute the student's Cumulative Grade Average.

Retake

Courses may be retaken, but only one retake of a course counts towards a student's eligibility for financial aid purposes.

If students with disabilities can demonstrate equal or higher academic performance as their typical college peers and/or demonstrate the ability to maintain satisfactory academic progress, they may be considered eligible for accommodations such as course substitutions. Course substitutions could be a workshop, independent study, special topic classes, or practicum experiences.

The substitute course must be at the freshman and sophomore levels, and be closely related in content, objectives, and outcomes to the original required course. Such accommodations will be considered on a case-by-case basis to ensure students with disabilities meet the necessary and required coursework for the specific degree or certificate program.

Financial Aid Warning

Recipients of financial aid will receive a financial aid warning notice after any semester in which their semester/term grade point average falls below the **Completion Rate/Pace"** and/or they fail to satisfactorily complete 67% of the credit hours in which they are enrolled.

The financial aid warning letter serves as a **WARNING** to the student that he/she did not maintain satisfactory academic progress during the most recent semester of attendance at Navajo Technical University. Failure to meet one of the academic progress standards for one semester results in financial aid warning. **Students on financial aid warning are eligible for Title IV Funds.** Students will be removed from warning

status after completing the following semester in good academic standing.

Financial Aid Suspension

Recipients of financial aid will be suspended from aid if they fail to meet the semester grade point average and/or to complete 67% of their enrollment for TWO (2) semesters of academic coursework. Failure to meet one of the academic progress standards for two consecutive semesters may result in financial aid suspension. Students on financial aid suspension are not eligible for Title IV Funds.

Reinstatement of Financial Aid Eligibility

A student may lose federal and institutional aid eligibility because he/she is not meeting the SAP GPA or Pace standards.

A student may regain eligibility in one of the following ways:

1. Submit a Satisfactory Academic Progress (SAP) Appeal Form with supporting documentation. A student must be advancing toward a degree and show progress within the SAP Academic plan for graduation.

   Financial Aid Probation: If student's FA Suspension appeal is approved, the student will be awarded on a Financial Aid Probation Status and must complete all credits with a 2.0 grade point average, otherwise, he/she will go on FA Suspension.

2. Complete one semester using his or her own resources. Courses taken must be chosen in consultation with an Academic Advisor. A student must advance toward attaining a degree and adhere to the Degree Checklist.

Once eligibility is restored, a student will be awarded aid for the following terms, subject to availability of funds.

Return to Title IV (Refund & Repayment Policy)

If students receiving federal financial aid withdraw from the University, the amount of the financial aid to be repaid or refunded is calculated using a formula supplied by the U.S. Department of Education. The last day of attendance is used to calculate the total amount to be repaid. A refund is the difference between the amounts paid toward institutional cost (including financial aid and/or cash paid) and the amount the school may retain

under the appropriate refund policy. See the Financial Aid Student Handbook for detailed information on the Title IV Refund/Repayment policy.

The order of refund of Title IV funds to the programs from which the student received aid during the payment period or period of enrollment is in the following, up to the net amount disbursed from each source:

1. Unsubsidized Federal Stafford loans*
2. Subsidized Federal Stafford loans*
3. Unsubsidized Direct Stafford loans (other than PLUS loans)
4. Subsidized Direct Stafford loans
5. Federal Perkins loans
6. Federal PLUS loans
7. Direct PLUS loans
8. Federal Pell Grants **for which a return of funds is required**
9. Federal Supplemental Educational Opportunity Grant (FSEOG) **for which a return of funds is required**
10. Federal TEACH Grants **for which a return is required.**

NOTE: *Navajo Technical University does not participate in the Federal Student Loan Program and will not certify enrollment or share information with potential lenders.

Changes That May Impact Eligibility (Consolidated Appropriations Act of 2012: Effective July 1, 2012)

- **Federal Pell Grant Duration of Eligibility** – Be- ginning award year 2012–2013, the duration of a student's eligibility to receive a Federal Pell Grant is reduced from 18 semesters or its equivalent to 12 semesters or its equivalent. The calculation of the duration of a student's eligibility will include all years of the student's receipt of Federal Pell Grant funding.

- **Pell Grant Lifetime Limit** – Beginning Fall 2012, students are now limited to receiving 12 semesters of Pell Grant eligibility during their lifetime. This change affects all students regardless of when or where they received their first Pell Grant. Students may view their percentage of Pell Grant used by logging into www.NSLDS.ed.gov. Your 'Lifetime Eligibility

Used' percentage will be displayed in the 'Grants' section.

Completion Rate/Pace & Maximum Timeframe

(Effective: Fall 2015)		
Classification	Credit Hours	GPA
Freshman	0-32	1.500
Sophomore	33-64	1.750
Junior	65-96	2.000
Senior	97-128	2.000

Maximum Timeframe/Pace
The US Department of Education places a credit hour limit on funding for all financial aid students. Funding is available until a student has reached 150% of the credit hours required to complete their program. This includes all double majors, additional degrees, repeat credits, and transfer credits (example: AS in Early Childhood Multicultural Program = 70 credits × 150% = 105 credit hour maximum timeframe)

Paying Prior-Year Charges
In general, FSA funds may only be used to pay for the student's costs for the period for which the funds are provided. However, a school may use current-year funds to satisfy prior award year charges for tuition and fees, room, or board (and with permission, educationally related charges) for a total of not more than $200. A school may not pay prior year charges in excess of $200.

Federal Work Study Program (FWS)
FWS is a federally-funded program and a part of the Title IV student aid funds. It provides jobs for students with financial need, allowing them to earn money to help pay for their education expenses.

Student Consumer Information
NTU provides current information through annual publications on students' rights and responsibilities concerning financial aid. Students may request copies of the Financial Aid Student Handbook and the Student Guide at the Financial Aid Office in person, by mail, by telephone, or online at www.navajotech.edu.

Financial Aid Appeal Process
Students who fail to maintain satisfactory academic progress and are notified of financial aid suspension may appeal to be eligible for federal funds. The Financial Aid Officer or the FA Committee will review the appeal(s). An appeal should be based on extenuating circumstances and documented by the student; i.e. hospitalization, accident, death in the family, etc. The results of the appeal will be sent to the student following consideration and decision. Information and forms are available at the Financial Aid Office or online at www.navajotech.edu.

NOTE: Students are encouraged to seek other available resources.

Financial Aid Office Location/Contact
The Financial Aid Office is located in the Empowerment Center at the Main Campus and at the Chinle NTU Site. <u>For More Information, Call:</u>

Crownpoint Campus	Chinle Site
Phone: 505-786-4183	Phone:928-674-5764
Fax: 505-786-5644	Fax: 928-674-6751

Grants and Scholarships
Students applying for these scholarships must complete a FAFSA. These scholarships are established by public sources and private donors. Support is based on the availability of funds.

Navajo Nation Scholarship and Financial Assistance (ONNSFA)
For ONNSFA requirements, see ONNSFA Policies and Procedures online at www.onnsfa.org. All applicants must apply at their respective agency.

Crownpoint Agency
Email: onnsfacrownpoint@navajo-nsn.gov
PO Box 1080
Crownpoint, NM 87313
Toll Free: (866) 254-9913
Fax Number: (505) 786-2178

Ft. Defiance Agency
Email: onnsfacentral@navajo-nsn.gov
PO Box 1870
Window Rock, AZ 86515
Toll Free: (800) 243-2956
Fax Number: (928) 871-6561

Shiprock Agency
Email: onnsfashiprock@navajo-nsn.gov
PO Box 1349
Shiprock, NM 87420
Toll Free: (866) 223-6457
Fax Number: (505) 368-1338

Tuba City Agency
Email: onnsfatubacity@navajo-nsn.gov
PO Box 370
Tuba City, AZ 86045
Toll Free: (866) 839-8151
Fax Number: (928) 283-3215

Chinle Agency
Email: onnsfachinle@navajo-nsn.gov
Office of Navajo Nation Scholarship &
Financial Assistance - Chinle Agency
P.O. Box 2358 Chinle, Arizona 86503
Toll free: 1-800-919-9269, Fax: (928) 674-2331
Website: www.onnsfa.org

Navajo Nation Chapter Scholarships
Navajo Nation Chapter Assistance is available at each chapter throughout the Navajo Nation. Applicants must be registered members with their respective chapters.

Utah Navajo Trust Fund
The Utah Navajo Trust Fund makes financial aid available to Navajo residents of Utah. The office is located in Blanding, Utah. Applications are available at the Financial Aid and Scholarship Office.

Other Scholarships
Many organizations such as churches, businesses, and civic groups offer scholarships each semester. Others receive assistance from employers, credit unions, corporations, foundations, or professional associations.

The Financial Aid and Scholarship Office have information about the following:

1. American Indian College Fund (online application only)
2. American Indian Education Foundation / National Relief Charities
3. American Indian Services
4. Gates Millennium Scholarships
5. Indian Health Service Scholarships
6. Navajo Tribal Utility Authority
7. Tom Davis Scholarship
8. AMP Scholarship
9. Other Tribal Scholarships

TUITION AND FEES:

The estimated cost of attending NTU is as follows:

Cost	One Semester w/CIB	One Semester non-CIB	Two Semesters w/CIB	Two Semester non-CIB
Tuition[4] (Full time)	$855	$1,710	$1,710	$3,420
Activity Fee[3]	$ 50	$50	$ 100	$100
Technology Fee[3]	$ 50	$ 50	$ 100	$ 100
Library Fee[3]	$ 50	$ 50	$ 100	$ 100
Athletic Fee[3]	$ 50	$ 50	$ 100	$ 100
Total	$1,055	$1,910	$2,110	$3,820

Out-of-state tuition does not apply since tuition at NTU is based on whether or not a student is an enrolled member of a federally recognized Indian tribe or not.

[1] Enrolled members with a census number or enrollment number (CIB) of a federally recognized tribe.

[2] Non-enrolled members (no census number) or no enrollment number.

[3] Applies to Full-Time students.

[4] Tuition is calculated at $71.25 per credit hour for enrolled tribal members up to twelve (12) credit hours for full-time status. Summer session full-time credit hour is calculated according to the number of weeks plus one. Therefore tuition is based on number of credit hours up to full time status.

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Since books and supply costs vary from program to program and year to year, costs for books and supplies are calculated separately from tuition rates but still apply as part of the total cost of attendance.

Commercial Driver's License (CDL) Fees:
Course Tuition Cost (18 credit hours) $1,155.00[1]
                                                                $2,310.00[2]
NM State Driver's Exam Fee $ 160.00
CDL License Transfer Fee $ 16.00
Examination Fee $ 5.00

Program Fees:
All Students will be charged a $125.00 Program Fee per semester.

Lab Fees: $125.00 per applicable course (students should check college catalog course description to determine which courses require lab fees.

Efficiency Apartment Fees:
Administrative Operation Fee
        $1,140.00 per semester
        $ 68.33/week summer session
Security Deposit
        $ 150.00 (Must be paid before occupancy)

Student Family Housing:
Administrative Operation Fee
        $ 500.00 per month
        $ 500.00 per month summer session
Security Deposit
        $ 250.00 (must be paid before occupancy)

Meals:
Breakfast, Lunch and Dinner are $7.00 per meal
Note: Students will sign-up for a meal plan with the Cafeteria during orientation week.

Childcare:
Full-Time Student:
First Child:
4 days per week
    $320.00 per semester
    $160.00 summer session
5 days per week
    $400.00 per semester
    $200.00 summer session

Each Additional Child:
4 days per week
    $256.00 per semester
    $128.00 summer session
5 days per week
    $320.00 per semester
    $160.00 summer session

Part-Time Student:
Each Child:
4 days per week
    $128.00 per semester
    $ 64.00 summer session
5 days per week
    $160.00 per semester
    $ 80.00 summer session

Staff/Faculty/Community:
Full-Time (4 or more hours per day):
First Child:
    $15.00 per day
Each Additional Child
    $10.00 per day
Part-Time (3 or less hours per day):
Each Child:
    $ 2.50 per hour

Miscellaneous Fees:

Key Replacement	$ 25.00
I.D. Card Replacement	$ 25.00
Official Transcripts (Each)	
• 5 – 7 business days	$ 10.00
• Rush order 1 business day	$ 15.00
Accuplacer Retesting Fee	$ 50.00
Transportation Fee (Semester)	$425.00
Late Registration Fee	$ 50.00
State Nursing Examination (estimate)	$100.00

Note: Fees are subject to change. Other lab fees not listed will vary per course if required.

REFUND POLICY

Students who officially withdraw or drop courses are entitled to a partial tuition refund depending on date of withdrawal. All additional fees are non-refundable. Any refunds due to the student will be processed by the NTU Business Office. Refund checks will be mailed to the student once processed. Refunds amounts are calculated according to the following guidelines:

Tuition and Course Fee Refunds/Credits
Tuition will be refunded or credited to a student's account according to the following schedule which is based upon the regular semester schedule:

- 100% refund – before instruction begins
- 80% refund – 1 – 14 calendar days
- 60% refund – 15 – 21 calendar days
- 40% refund – 22 – 28 calendar days
- 20% refund – 29 – 35 calendar days
- 0% refund – after the 35th calendar day

Summer school refund will be determined according to the number of weeks in the summer session.

Residential, meal plan refunds/credits
The student's administrative fee for residential and meal plan charge will be prorated per week. Please refer to the residential handbook for more details or contact the residential manager.

Book store refunds or credits
Books and accompanying disks or workbooks may be returned if items are returned in good or original condition in order to receive any refund.

STUDENT BILLING POLICY

A student, upon petitioning for graduation, must ensure that his/her student billing obligations are met. If an outstanding student bill exists, the student will not be able to receive his/her certificate or degree. It is the sole responsibility of the student for paying or fulfilling all financial obligations to the college prior to graduation. In absence of meeting this financial obligation, official college transcripts will not be provided to the student, potential employers, and/or other institutions of higher learning until the financial obligation is met. Unmet financial obligations to the college will also prevent re- admission to NTU until the outstanding debt is satisfactorily cleared.

SERVICES PROVIDED TO STUDENTS

NTU offers a variety of services to assist and support students in attaining their educational goals. These student-centered services supplement NTU's academic offerings, help facilitate learning, and empower students to succeed personally as well as academically. For an in-depth description of services, please refer to the NTU Student Handbook.

Academic and Advisement

The Academic Counselor coordinates with the First Year Advisor to assist in evaluating student's abilities and interests to develop realistic academic and career goals. Advisement includes educational planning, choosing a major, planning for a certificate, an associate or a baccalaureate degree, and planning strategies for academic success. The counselor works with students placed on academic probation and a student readmitted on academic suspension and places them on contracts to work toward raising their cumulative grade point averages to include support services such as tutoring. The counselor monitors and meets with faculty to assess the progress of the student. The counselor also conducts academic support workshops. For more information, call Crownpoint campus at (505) 786-4328 or Chinle campus at (928) 674-5764.

First Year Experience

The First Year Program has been developed to strengthen the retention rate, to improve operational efficiencies and enrollment, and the long-term success of first-year students at Navajo Technical University. The Advisor and Counselor coordinate to meet with first-year students. They evaluate the student's abilities and interests to develop realistic academic and career goals. The FYE staff provides accuplacer placement testing and interpretation for appropriate placement in math and English courses. Advisement includes educational planning, choosing a major, planning for certificate, associate, or bachelor degree, and planning strategies for academic success. Contact numbers are (505) 786-4340 and 4347.

Substance Abuse and Prevention Program

The Substance Abuse and Prevention Specialist provides intervention and prevention activities. The specialist receives referral of students who have violated NTU Drug-Free Policy who are then required to attend the counseling/group sessions as a part of their continuations as a student at NTU. The individual referrals are screened, assessed, and evaluated to develop a treatment plan. The Specialist also provides classroom-based prevention education program in health education, which is designed to increase the student's knowledge about alcohol and drug abuse. Contact number is (505) 786-5953. The Prevention Specialist is located in Modular Building 4.

Career Advisement, Job Placement and Internship

Career advisement is offered to provide guidance to students in selecting a career path and a corresponding academic program at NTU. The career advisor uses a computer-based pre-assessment test to evaluate an individual's personality, interests, skills, and aptitude in order to identify his/her career competencies.

Some programs require an internship where students have the opportunity to apply practical, job- specific skills in an actual work situation in cooperation with businesses in the private and public sector. Students enrolled in these programs must complete their internship to qualify for graduation. The student must meet with the advisor and assigned faculty advisor to begin the process of sub- mitting documents and officially registering for the course with the Registrar's Office.

The job placement program aspires to provide students with an advantage in the job market by giving them an opportunity to enrich their skills in an on-the-job learning environment. The job placement program can:

- Provide students with the opportunity to develop knowledge and skills necessary for success in a career or continued education opportunities
- Offer students the opportunity to prepare for a career through on-the-job experience

- or a research-based learning environment
- Provide students with guidance in selecting a specific career path and/or in choosing a college to complete educational goals
- Strengthen students' employability in today's job market.

The Career Advisor may be contacted by phone at (505) 786-4181. The Job Placement Coordinator's contact number is (505) 786-4114.

Students with Disabilities

The Disability Accommodations Specialist provides careful evaluation of the special needs program and accommodating needs of students with disabilities. The specialist conducts related counseling and support for the student, and offer professional guidance for staff and faculty on the accommodations and adjustments to program design and facilities required to serve the student appropriately. The specialist coordinates with other NTU counselors to address and case staff clientele to monitor progress and/or make necessary adjustments in accommodations. The specialist also conducts referrals to appropriate agencies as deemed necessary.

Accommodations for Students with Disabilities: NTU is committed to meeting the specific needs of students with disabilities and complies with the provisions of the *Americans with Disabilities Act (ADA) of 1990* (42 U.S.C.12102) and *Section 504 of the Rehabilitation Act of 1973*. In general the term "individual with a disability" means an individual with any disability (as defined in Sec. 3 of the *Americans with Disabilities Act of 1990* (42 *U.S.C.* 12102). Students are responsible to self-identify and discuss their disability and special needs in order to receive reasonable accommodations. To receive reasonable accommodations, the student must register with the special needs counselor at the beginning of the semester. Documentation verifying the type of disability will be required by a medical professional or a state licensed diagnostician and must be made available to the specialist. To request accommodations, contact the special needs counselor at (505) 786-4138.

Child Care Services

The NTC Child Care Center provides child care

services for students at a reasonable cost. Upon availability, it also provides services for staff, faculty, and the surrounding community at a reasonable cost. The center provides a nurturing environment, employs a curriculum that promotes the development of the "whole child," and encourages positive parent-child interactions. The center is limited in the number of children to whom care can be given. A Child Care Handbook is provided during the center's orientation. The center is located east of the cafeteria. Contact number is (505) 786-4122 for more information, or to obtain an application packet. *Only available at Crownpoint Campus.*

Cafeteria and Food Services

The cafeteria provides meals for the staff, students, and the surrounding community at a reasonable cost. The cafeteria hours are posted and open year-round with the exception of the holidays. All students are required to complete the meal plan form indicating which meals they will be eating during the semester. Meal plans must be submitted to the Food Services office during registration but prior to the last day to drop deadline. Contact number is (505) 786-4128. *Only available at Crownpoint Campus.*

Student Residential Services

NTU provides residential housing for both single students and students with families at the main campus. Students who live beyond a 55-mile radius from NTU, who are enrolled full time at NTU, and have submitted all required documents are eligible to apply. Security deposits are required prior to occupancy of any NTU housing facility. First preference is given to Native American students as the facilities are funded by the Native American Housing Assistant and Self Determination Act of 1996. NTU offers efficiency apartments for single students and family housing for married students and their children. See student residential housing handbook for more information or by calling (505)786-4175 or 786-5960. *Only available at Crownpoint Campus.*

Parking and Transportation Services

Transportation to and from NTU is available to commuter students at various area locations. Routes are established on an as-needed basis. Students who wish to use this service must contact the Transportation office during registration in

order to set the current semester routing, to gain additional information, or to request a specific route. Typically, NTU provides bus service from Gallup, Farmington, and Pueblo Pintado. No new routes or bus stops will be added after the drop/add deadline. Transportation services are subject to the availability of sufficient and appropriate vehicles. There is a transportation fee per semester for students using NTU transportation services.

Parking is readily available and close to all classrooms. If an escort to and from the parking area is needed, please contact NTU Security in advance. Navajo Technical University is not responsible for problems that arise as a result of missed rides or accidents, and or loss/theft/or damage to personal property. Contact the transportation office at (505) 786-4332 for information.

Security
The university contracts a third party company for campus security. The officer on duty may be contacted at (505) 786-4345. Preventing a crime and protecting one another is a responsibility shared by all personnel and students on campus. Please promptly report a crime, suspicious activity, or emergencies that occur on campus. Contact Chinle Campus at (928)674-5764.

Bookstore
The NTU Bookstore maintains a complete inventory of university textbooks and school supplies including notebooks, pens, pencils, folders, and other items. The bookstore hours are Monday – Friday, 9:00 a.m. – 12:00 p.m. and 1:00 p.m. – 4:00 p.m. The NTU Bookstore is located in Modular 16, next to the administration offices. Contact number is (505) 786-4371.

Tutorial Services and Stem Lab
Tutoring is available to all students in the STEM/Tutoring lab. The lab offers tutoring services and general use of computers. In lieu of structured tutoring, the facilities may be used simply as a quiet place to work on homework assignments. Hours of operation vary from semester to semester, but include some afternoons and evenings. Specific hours are posted on the entrance door and on posting boards throughout the campus. Tutorial Services is also a source of

employment for students qualified for the work-study program. The STEM/Tutoring lab is located in Modular Building 11. Contact number is (505) 786-4125.

Computer Services
Students using computers at NTU are expected to follow the Information Technology policy and procedures. Students using NTU e-mail, Internet Services, or any University software or hardware, should have an understanding that this technology is provided by NTU and is the property of NTU. The University reserves the right to review and monitor the use of hardware and software belonging to the school or personal equipment utilized on school premises. Such rights include the auditing of documents sent, received, or viewed through the Internet and e- mail. Students have no right to privacy regarding materials stored, kept, sent, or received on NTU hardware or software or personal equipment maintained on school premises. Students are not to print, display, download, or send any sexually explicit images, messages, or jokes or to visit chat rooms, message boards, or other forums where sexually explicit, offensive, or illegal issues are discussed. Violators will be subject to disciplinary action up to and including dismissal from NTU. For the protection/privacy of individual students and that of NTU, students are advised not to share passwords or provide computer access to unauthorized individuals. Students are subject to the NTU Computer and Network Usage Policy.

NOTE: Students who vandalize, misuse, or steal any NTU property and/or equipment will be subject to disciplinary action up to or including dismissal from NTU and possibly be subject to prosecution through the Navajo Nation Courts, to include restitution to NTU.

Library Services
The Pete V. Domenici Library is located on the main campus. There are tables for study and laptop use. Library users have access to 28 research computers in the library with printing capabilities. Wireless connectivity is available for most devices throughout the building.

Library Resources
The library collections contain over 7,000+ print & non-print volumes, arranged according to the Library of Congress Classification System. The

library subscribes to over forty research databases including: Academic Search Premier, ArticlesFirst, CINALH, Credo Reference, ERIC, Literature Resource Center, Newsbank, Computers & Applied Sciences, FirstSearch, Environmental Complete, Wilson Science Full-text, Wilson General Science and WorldCat. The library research databases can be accessed off-campus via NTU Library website with user id and password. Contact the Librarian for access. Students may borrow books or obtain copies of articles via the library's InterLibrary Loan (ILL) service when the requested items are not owned by the library (note: the process may take up to two weeks or less to receive materials from other libraries in our network). For more information on the services and resources available at the library, please call the circulation desk at 505-786-4130.

Distance Learning (E-Learning)

NTU's goal is to expand access to higher education opportunities for individual and community members of the Navajo Nation and others through electronically offered classes. Distance learning and online teaching technology will be used to provide relevant and timely coursework, information, and training to enhance the learning experience by removing the barriers of both time and place. Once the distance education program is fully implemented, students can enroll at NTU from off-campus computer labs or at home. The E-Learning office is located in Modular Building 8. Contact number is (505) 786-4152.

Continuing Education

The Continuing Education program at NTU offers courses throughout the year, usually in the evening, as weekend special sessions, and during summer session and/or meetings. Credit and non- credit courses are offered for academic, professional, and personal development. Courses are intended to supplement the established educational programs but also to address professional and personal advancement. Continuing Education serves campus students, and the surrounding community of the Navajo Nation with specialized training or instruction. Not all courses are offered every semester and course offerings are continually being changed, up-dated, and revised each semester.

General Education Development (GED) Program

Navajo Technical University's (NTU) Adult Education Program offers classes and tutoring to help adult learners to build basic academic skills to prepare to take GED test to attain a high school equivalency diploma. The Program also provides students evidence of readiness to enter job training programs or college. The NTU ABE/GED Program mission statement is "Adult Basic Education is committed to adult learners to enter higher levels of self-reliance and employment opportunities. With the knowledge obtained, adult students will exercise choices and options with effective and productive lifestyles based on Dine cultural principles: Nitsáhákees, Nahat'á, Iiná, and Sihasin.

The NTU ABE/GED Program complies with the State of New Mexico GED requirements including:
- Must be 16 or 17 years of age if you meet the following exceptions:
- Obtain and submit a permission form with consent from local school District as well as from parents or guardian. One does not need to live in New Mexico to take the GED test with the Program.
- Must complete the pre-post- tests and practice test after spending a certain amount of prescribed time required by the Program.
- The Program does not require that a student takes a GED Practice Test prior to taking an Official GED Test, however; it is recommended that a Practice Test be taken to ensure preparedness and readiness to take the Official Test.

The New GED testing are administered on computers call Computer Based Testing (CBT). The new generation of testing will be harder to pass and will include four components and will require all candidates to improve or develop their basic computer literacy skills. Four (4) subjects in the New GED Test are:

1. Reading Language Arts (RLA) - (150 minutes). Writing and Reading are combined as RLA.
2. Mathematical Reasoning- (120 minutes).
3. Science- (90 minutes)
4. Social Studies- (95 minutes)

Students must register to schedule to test which will require a mandatory GED Orientation scheduled by the Program Instructors. Students will schedule

testing when referred by the Instructor.

All prior ABE/GED Program testing scores and records were erased during November 2013, and cannot be used as credit toward your diploma.

Extension Services

The mission of Navajo Technical University Extension Services is to assist individuals and communities in making informed decisions through research and experience-based educational programs, to improve agriculture and natural resources, to improve capabilities of individuals and families, to aid communities in developing and adapting to changing conditions, and to provide developmental opportunities for youth. Extension staff is employed to plan, conduct, and evaluate these programs.

This community-based Extension Services program at Navajo Technical University maintains close coordination and cooperation with New Mexico State University Cooperative Extension Service to provide clientele with educational programs in the four Cooperative Extension Service program areas of Agriculture and Natural Resources, Family Health and Well Being, Community Resource Development, and 4-H Youth Development.

Extension programs and activities in the region of Navajo Technical University are based on identified needs of clientele. Needs assessment involves working with advisory committees, key leaders, and partnering organizations, analyzing socio-economic data, consulting with tribal and county government, collaborative planning with 1994 land-grant colleges located in Northern New Mexico, and other appropriate assessment procedures.

The Extension Services office is located on the South Campus near the corner of State Highway 371and Navajo Route 9. For more information, please call (505) 786-4165.

Student Life and Activity Office

The Student Activity Office oversees the majority of the student extracurricular activities on campus and also participates in all Student Senate meetings and planned activities. The office helps with arrangements for off-site activities and is also responsible for all recreational equipment. The office coordinates most of the activities with the Student Senate members who are elected by the student body during the fall semester. The NTU Student Senate is involved in the establishment and support of student clubs as well as the planning and implementation of student activities during the semester. Participation in campus activities require students to be in good standing status.

Other Student Organizations include:

- American Indian Higher Education Consortium (AIHEC) - Basketball
- American Indian Science and Engineering Society (AISES)
- National Technical Honor Society of NTU
- Skills USA

Some other activities planned for each semester include (but are not limited to) softball games, dances, cookouts, volleyball games, archery, family fun nights, and holiday-related activities. Contact the Student Activity Office coordinator by phone at (505) 786-4172. Chinle Campus: (928) 674-5764.

Athletics

NTU teams have goals to place in their conference, regional, and national championships in a variety of sports. Winning teams have become a tradition at NTU in both men's and women's sports. Community support for intercollegiate athletics at NTU has been outstanding. The caliber of coaching, the quality of uniforms and equipment, the training and medical facilities, and the opportunity to play against good competition are superior. NTU Athletic Programs aspire to the

highest level of intercollegiate competition, sportsmanship and academic excellence through the University mission.

Intercollegiate Athletics for Men and Women

NTU Intercollegiate teams for men and women include Archery, Cross-country, Rodeo and Track. Winning is the goals as teams participate in United States Collegiate Archery Association (USCA), United States Collegiate Athletic Association

(USCAA) and National Intercollegiate Rodeo Association (NIRA). These teams excel in their respective national associations. NTU Athletes must follow their sport Association rules and policies. Tryout information for the men's and women's team and student athlete forms can be found on the university website under athletics.

Intercollegiate Athletic Scholarships/Eligibility for Transferring Student Athletes

- A second semester student must pass 12 credit hours, and must have a CGPA of 2.5 or higher in his/her proceeding term.
- Or a student with 24 credits hours or more must have a CGPA 2.5 or higher during the past two preceding terms of attendance (from prior institution(s)).

Financial Support for Athletes

Athletic scholarships, grants-in-aid, and special inducements or privileges for athletes do exist at NTU in accordance with rules governing university athletics. The current year FAFSA form is required to be submitted to NTU financial aid office. NTU scholarships are based on financial need. Beyond athletic aid, student athletes are attracted to NTU for its excellent educational opportunities, its tradition for winning teams, the outstanding coaching staff, and the opportunity to participate and compete as collegiate student athlete.

To be eligible for Athletic Scholarship the next semester, a student athlete must have passed 12 credits or more and have a Cumulating GPA 2.5 or higher in his/her proceeding term.

Club Team/American Indian Higher Education Consortium (AIHEC) Sports for Men and Women

Club Team Sports in which NTU fields teams for men and women include Archery, Basketball, Flag Football, Softball, Soccer, and Volleyball. Winning is the goals as teams participates. These teams excel in their respective sports. NTU Club Team Sports must follow their sports rules as well. There will be Tryouts for the men and women Club Team. The participations' forms can be found on the college website under athletics or at the Multi-Purpose Center.

Club Team Sport Eligibility for Transferring Students

- A second semester student must pass 12 credit hours, and must have a Cumulating GPA of 2.0 or higher in his/her proceeding term.

- Or a student with 24 credits hours or more must have a Cumulating GPA 2.0 or higher during the past two preceding terms of attendance (from prior institution(s)).

Team Rules

Each Head Coach will have his/her team rules for their team. Student Athlete will turn in team equipment and uniforms at end of season.

Eligibility for Club Team/AIHEC

For a student to be eligible for any sports competition, the student must conform to the following regulations:

- A student must be a graduate of an accredited high school with a diploma or have earned a General Education Diploma (GED).
- A student must be enrolled in a recognized academic program and be making progress towards a two or four year degree at the attending college.
- A second semester student must pass 12 credit hours, and must have a Cumulating GPA of 2.0 or higher in his/her preceding term.
- Or a student with 24 credits hours or more must have a Cumulating GPA 2.0 or higher.
- Summer and inter-term credit hours can be used to satisfy the 12/24 credit hour and Cumulating GPA requirement.
- Summer credit hours should be attached to the preceding Spring Semester for eligibility purposes.

Ineligibility for Club Team/AIHEC

- A second semester student does not pass 12 credit hours, and/or Cumulating GPA fall below 2.0 at end of semester is ineligible for the next semester.
- Or a student with 24 credits hours or more Cumulating GPA fall below 2.0 at end of semester is ineligible for the next semester.

Disability students joining a league

If anyone wants to join any athletic program and has documented disability, including a learning disability, and would like to discuss possible accommodations, please see the Disability Accommodations Specialist or the Athletic Director.

Wellness Program

NTU promotes wellness of the body, mind, and spirit, and tangibly supports a culture in which all community members understand, value, and make healthy lifestyle choices.

Eligibility for Wellness Program

The Wellness Program at NTU is open to students, faculty & staff, and community. We strive to support the NTU community with access to wellness related programs, and to provide facilities for fitness activities. Youth, 17 years old and under must have a parent/guardian with them in the Wellness Center. Everyone in the Wellness Center must sign in and out each day.

Use of the NTU Wellness Center requires enrollment in the Wellness Program and follow the Wellness Center Rules and Policies.

Non-Competitive Wellness Programs:

Walking for You (W4U)

This cardio program is for individuals to walk, jog, run, or cycle at their own pace. To complete this program an individual needs to complete 30 hours of cardio exercise. When the program is complete the individual will get a certificate of completion.

Strength Training for You (ST4U)

The strength program is intended for an individual who work out and lift weights at their own pace. To complete this program an individual needs to complete 30 hours of work outs. When the program is completed the individual will get a certificate of completion.

For more information please contact the Athletic Director:

Crownpoint Campus Wellness Center
P. O. Box 849
Crownpoint, New Mexico 87313
Telephone: (505) 786-4100
Fax: (505) 786-5644

PROCEDURES, RULES, AND REGULATIONS

Visitors

Visitors are welcome at NTU. All visitors must comply with college procedures, rule and regulations.

Student Handbook

NTU has a student handbook that provides more in-depth information of services provided to student. NTU Policies, Code of Conduct, and other student related information. Therefore, students are responsible to adhere to the policies, procedures and guidelines explained in the handbook in order to demonstrate appropriate student behavior and maintain good academic standing. Failure to abide by the policies in the handbook may result in consequences which may include dismissal.

Student Complaints

Students have the right to file grievance in writing to the Dean of Student Services and/or Dean of Instruction. The nature of the complaint must be described thoroughly, witness provided and any evidence supporting the complaint. Issues and complaints on employees are addressed directly to the immediate supervisor. Refer to the Student Handbook for procedures on reporting and/or filing complaints.

Vehicle Registration

Students who operate a motor vehicle on campus must register the vehicle with the Transportation Office and display a current NTU identification placard in their vehicle at all times. Students must show proof of vehicle liability insurance, current vehicle registration, and a current driver's license in order to register a vehicle. A vehicle is not considered registered until the proper identification is placed on the vehicle.

Federal Campus Security Act
(The Clergy Act)

Crime Prevention: Crime prevention information is provided during student orientation and is published with the campus crime statistic information. Please report any suspicious activities or persons to the campus security. Be prepared to give locations and descriptions.

Restraining (Protection) Orders

Persons needing police assistance with the enforcement of restraining orders should provide a copy to the campus security and a copy kept on file with student records.

Insurance, Medical Emergencies, Healthcare

NTU is not responsible for property loss, damage, or personal injuries. Students are urged to obtain their own property and medical insurance coverage. The U.S. Public Health Services' Indian Health Service (PHS/IHS) is available to all Native Americans for medical services and non-Native Americans for emergency medical services. For general healthcare (non-emergency), non-Native Americans should seek a private physician.

- Crownpoint Indian Health Service is available for emergency ambulance service by calling (505)786-5291, NTU Campus Security (505)786-4307 or 4175, or the Navajo Police Department at (505)786-2050 or 911.
- Chinle IHS (928)674-7090 or 7001

Lost and Found

Lost and found items are turned in to the Administration Office. Unclaimed items are disposed of 14 days after the end of each academic semester.

Phone Calls

NTU students will not be called from class to receive telephone calls or visitors except in Emergencies. Messages may be left for students by contacting the receptionist or the house monitors at the residential complex.

Student Dress Code

Students are asked to attend class dressed appropriately for the program in which they are enrolled. Students or visitors must wear shirt and shoes to enter a NTU building.

Children

Students are not permitted to bring children to classroom or laboratory sessions. Children left unattended on campus will be brought to the attention of the appropriate enforcement agency.

Animals

Students are not allowed to have pets (except

those assisting sensory impaired persons) in any campus building.

Fire and Fire Alarms

Fire alarms and smoke detectors are installed in all buildings and training facilities. Fire drills will be scheduled periodically. All students and staff are required to participate in fire drills and abide by fire alarm regulations. Evacuation routes are posted in all buildings, and students are responsible for knowing their planned evacuation route. At the beginning of the semester, students should study the route for each room in which they have class. If an alarm sounds, you will not know if it is a real fire; therefore, *all alarms must be treated as an actual fire*. **In the case of an actual fire, call 911 or the Crownpoint Police Station at (505) 786-2050/2051 or (505)786-7385. Chinle Police Department at (928)674-2113.**

Sexual Harassment Policy

NTU follows the non-tolerance guidelines for sexual harassment according to P.L. 92-318. Sexual harassment is defined as unwelcome sexual advances, requests for sexual favors, and/or verbal or physical conduct of a sexual nature which intimidates or causes fear. It is the policy of Navajo Technical University that sexual harassment is reprehensible and will not be tolerated. No student, employee, or job applicant should be discriminated against on the basis of sex. Such discrimination subverts the mission of NTU and threatens the careers of students, faculty, and staff. Sexual harassment of any type is a violation of Title VII of the Civil Rights Act of 1964 and Title IX of the Educational Amendments of 1972. NTU is committed to creating and maintaining a community in which students, faculty, administration, and staff can work together in a humane atmosphere free from all forms of disrespectful conduct, harassment, exploitation, or intimidation. It is the intention of NTU to take corrective action needed to prevent, correct, and if necessary, to discipline behavior that violates this policy. Anyone who believes she/he may have experienced sexual harassment may either inform a supervisor, instructor, and/or counselor, the Dean of Student Services, the Dean of Instruction, or the Human Resources Director.

NTU Drug-Free Campus Policy

The NTU Drug-Free Campus Policy prohibits the unlawful and unauthorized use, possession, sale, production, and/or delivery of any illicit drug, alcoholic beverage, and/or drug paraphernalia on school premises or other school locations. School premises or other school locations include any school building on or off the main campus, any school-owned vehicle used to transport students to and from school activities, any off-campus school sponsored or approved activities, events or functions, and/or during any period of time school employees are supervising students on behalf of the school or are otherwise engaged in school business. This also includes being "under the influence" or "intoxicated;" therefore, any student who is found on campus while "under the influence" or "intoxicated," will be reported to the Navajo Police. This policy is in compliance with the Drug-Free Schools and Campuses Act; commonly known as Part 86 of EDGAR and the American Indian Religious Freedom Act of 1978. Drug and alcohol abuse on campus poses a serious threat to the health and welfare of faculty, staff, and students, impairs work and academic performance, jeopardizes the safety and well-being of other students and members of the general public, and conflicts with the responsibility of NTU to foster a healthy environment for the pursuit of education and service. As a condition of enrollment, any student of NTU shall abide by the terms of the Drug Free Campus Policy by signing the affidavit included in the Admission Packet. Should a student violate the Drug-Free Policy, appropriate disciplinary actions will be enforced according to school policy.

Tobacco Free College Policy

The NTU Board of Trustees Resolution Number NTU-DEC-1080-11 prohibits the use of any and all tobacco products (smoke or smokeless) throughout the campus and in all vehicles, or buildings owned or occupied by NTU. Navajo Technical University has been a tobacco-free campus effective January 1, 2012. The use of tobacco is prohibited within college buildings, walkways, in college vehicles, and on college owned property. This policy applies to all faculty, staff, students, contractors, vendors, and visitors at all college campuses and locations. This policy is in compliance with the American Indian Religious Freedom Act of 1978 and Navajo Nation Resolution #: CJY-29-11.

DEGREES AND CERTIFICATES

MASTER OF ARTS DEGREE
Crownpoint Campus Only – see Graduate Catalog
Diné Culture, Language and Leadership

BACHELOR DEGREE PROGRAMS
Crownpoint Campus Only

Bachelor of Applied Science
Information Technology
Information Technology- New Media
Advanced Manufacturing Technology

Bachelor of Fine Arts
Creative Writing and New Media

Bachelor of Arts
Diné Culture, Language, and Leadership

Bachelor of Science
Early Childhood Multicultural Education
Electrical Engineering
Environmental Science and Natural Resources
Industrial Engineering

ASSOCIATE DEGREES PROGRAMS

Associate of Arts Degree
General Studies

Associate of Applied Science
Accounting
Administrative Office Specialist
Automotive Technology
Professional Baking *(formally Commercial Baking)*
Chemical Engineering Technology
Building Information Modeling
Culinary Arts
Energy Systems

Environmental Science & Natural Resources
Geographical Information Technology
Information Technology Technician
Law Advocate
Public Administration
Veterinary Technician

Associate of Science Degree
Early Childhood Multicultural Education
Mathematics

CERTIFICATES PROGRAMS

Vocational Certificates
Administrative Office Specialist
Applied Computer Technology
Automotive Technology
Bookkeeping
Carpentry
Computer-Aided Drafting
Computer Science
Construction Technology
Counseling
Electrical Trades
Environmental Science & Natural Resources
Geographical Information Technology
Industrial Maintenance and Operations

Information Technology Assistant
Legal Assistant
Mathematics
Pre-Engineering
Pre-Nursing
Professional Baking
Culinary Arts *(formally Professional Cooking)*
Textile and Weaving
Welding

Technical Certificate
Commercial Driver License – New Mexico

GENERAL EDUCATION REQUIREMENTS

General Education Philosophy

General Education is the foundation for all degree and certificate programs at Navajo Technical University. It provides students with knowledge, skills, attributes, and values needed to learn actively, communicate clearly, think critically, creatively, and reflectively, and to interact effectively in diverse environments. NTU's general education is to educate students within the Diné Philosophy of Education to be independent, critical thinkers, competent in their chosen professions by possessing a solid foundation in math, English, laboratory, social and behavioral sciences, communication, and information technology.

General Education Requirements

Certificate

Each student in a Certificate program at Navajo Technical University must complete a minimum of 12 credit hours of general education.

Required courses:

ENG-105	3 credits
MTH-113* or higher	3 credits
NAV-XXX	3 credits
CMP-101 or higher	3 credits
Total general education courses	12 credits

Note: Certificate students are required to take CMP-101 in their first semester, preferably before or at least concurrently with their English course. General education English courses incorporate the use of various types of computer technology in the classroom and rely heavily upon computer-generated assignments.

Associate Degrees

Any student seeking an Associate of Applied Science or Associate of Science degree must complete a minimum of 23 credit hours of general education, unless otherwise indicated in the curriculum. Required courses:

English*/Communication**	6 credits
Mathematics**	4 credits
Physical and/or Natural Sciences**	4 credits
Humanities and	3 credits
Behavioral/Social Sciences**	
Computer **	3 credits
Diné Studies**	3-4credits
Total general education courses	23-24 credits

Note: Associate degree students are advised to take CMP-101 in their first semester as subsequent courses in many programs, and especially in general education English courses, will rely on the use of computer technology and/or will require computer-generated assignments.

**Some programs require additional credits and/or specific credit hours or courses in General Education check their specific program requirements. Some courses may qualify in more than one category of General Education, (subjects such as Diné Studies and Humanities).

NOTE: In our on-going efforts to assist with the transferability of NTU general education credits to other New Mexico institutions of higher learning, a number of NTU courses are accepted and included on the New Mexico Articulation Matrix while more courses continue to be submitted for acceptance every year. A complete listing of transferable NTU courses along with the New Mexico Common Core course numbers is listed below can be found at *http://www.hed.state.nm.us/institutions/general-ed-core-course-transfer-curriculum.aspx*

General Education Courses

English/Communication Courses – 6 Credits
(check individual program requirements)

*ENG-105	Applied Technical Writing	3 crs
*ENG-110	Freshman Composition	3 crs
**ENG-111	Composition & Research	3 crs
**ENG-112	Technical Research & Writing	3 crs
ENG 165	History of Native Americans in Media	3 crs
COM-130	Public Speaking	3 crs
xCOM-150	Interpersonal Communication	3 crs

*Certificate students must take one freshman level English course (ENG 105 or 110) to earn their certificate. Degree students must take one freshman level (ENG 110) and pass with a grade of "C" or higher to be eligible to move to the next level.

**Bachelor Degree students must take one research writing course (ENG 111 or 112) after completing a freshman level English course (ENG 110) or equivalent course with a grade of C or higher. Certificate students are not required to take a research writing course, but are encouraged to take one if they intend to continue into a higher degree or transfer to another institution to continue their education.

Note: Not all of the English/Communication courses listed are on the New Mexico Articulation Matrix of transferable courses (within the New Mexico higher education system).

Mathematics: 4 Credits
(check individual program requirements)

*MTH-113	Technical Mathematics II	3 crs
**MTH-121	College Algebra	4 crs
MTH-123	Trigonometry	4 crs
MTH-150	Pre-calculus	4 crs
MTH-161	Calculus with Applications	3 crs
MTH-162	Calculus I	4 crs
MTH-163	Calculus II	4 crs
MTH-213	Elementary Statistics	3 crs

*Certificate students are required to successfully (with a grade of C or higher) pass MTH-113 (or higher) to earn their certificate. Please check with the program advisor for additional mathematics courses required by individual programs as some programs require higher levels of mathematics.
**All degree students are strongly encouraged to take the College Algebra course; however, other college level mathematics courses are listed as alternative/additional options. Check with program advisors for additional mathematics courses that may be required in some programs.

Note: Not all of the mathematics courses listed is on the New Mexico Articulation Matrix of transferable courses (within the New Mexico higher education system).

Physical and/or Natural Sciences: 4 Credits
(Check individual program requirements)

AST-110	The Solar System	4 crs
AST-112	The Cosmic System	4 crs
BIO-110	Elements of Biology	4 crs
BIO-120	Principles of Biology I	4 crs
BIO-122	Principles of Biology II	4 crs
BIO-130	Human Anatomy & Physiology I	4 crs
BIO-131	Human Anatomy & Physiology II	4 crs
BIO-224	Microbiology	4 crs
CHM-110	Elements of Chemistry	4 crs
CHM-120	General Chemistry I	4 crs
CHM-122	General Chemistry II	4 crs
ENV-102	Environmental Science I	4 crs
ENV-182	Environmental Science II	4 crs
GEO-101	Principles of Geology	4 crs
GEO-150	Environmental Geology	4 crs
PHY-101	Introduction of Physics	4 crs
PHY-111	Algebra-based Physics I	4 crs
PHY-112	Algebra-based Physics II	4 crs
PHY-121	Calculus-based Physics I	4 crs
PHY-122	Calculus-based Physics II	4 crs
SCI-101	Physical Science	4 crs
SCI-195/295	Topics in Science	1–4 crs

Note: Not all of the science courses listed is included on the New Mexico Articulation Matrix as transferable courses (within the New Mexico higher education system).

Humanities & Behavioral/Social Sciences
3 Credits
Social Science Courses:

ECN-111	Introduction to Economics	3 crs
ECN-195/295	Topics in Economics	1-3 crs
LAW-101	Introduction to Law	3 crs
LAW-106	American Indian Law	3 crs
LAW-195/295	Topics in Law	1-3 crs
NAV-221	Navajo Government	3 crs

PSY-105	Introduction to Psychology	3 crs
PSY-210	Developmental Psychology	3 crs
PSY-195/295	Topics in Psychology	1-3 crs
SOC-101	Introduction to Sociology	3 crs
SOC-195/295	Topics in Sociology	1-3 crs
SOC-210	Sociology of Social Problems	3 crs
SSC-100	College Success Skills	3 crs
SSC-195/295	Topics in Behavioral/Social Science	1–3 crs

Humanities Courses:

ART-110	Art Studio I	3 crs
ART-195/295	Topics in Art	3 crs
xCOM-150	Interpersonal Communication	1–3 crs
COM-210	Journalism	4 crs
COM-195/295	Topics in Communication	1–3 crs
ENG-150	Introduction to Literature	3 crs
ENG-155	Creative Writing	3 crs
ENG-160	Native American Literature	3 crs
ENG-161	Comparative Ethnic Literature	3 crs
ENG-195/295	Topics in English Studies	1–3 crs
HST-210	American History to 1877	3 crs
HST-211	American History Since 1877	3 crs
HST-220	History of the American Southwest	3 crs
HST-195/295	Topics in History	1–3 crs
HUM-160	Global Cinema	3 crs
HUM-170	History of Native Americans in Media	3 crs
HUM195/295	Topics in Humanities	1–3 crs
xNAV-101	Navajo Language	4 crs
xNAV-110	Foundations of the Navajo Culture	3 crs
xNAV-211	Navajo History	3 crs
NAV195/295	Topics in Diné Studies	1–3 crs
PED-101	Physical Education	1 cr
PED-120	Strength Training	1 cr
PED-130	Jogging	1 cr

Note: *Not all of the humanities and behavioral/social sciences courses listed are included on the New Mexico Articulation Matrix as transferable courses (within the New Mexico higher education system).*

x = cross-listed courses
Note: Cross-listed courses may only be used to fulfill requirements in one, not all, of the areas in which they are listed. Example: NAV-110 may not be used to fulfill requirements in both Diné Studies and Humanities—the course will only satisfy the requirement in one of those areas.

Pre-requisite are required in some courses.

Computer Technology: 3 Credits
(Check individual program requirements)

| **CMP-101 | Introduction to Computers | 3 cr |

** Certificate and Associate degree students must complete CMP-101 or higher as specified by their individual program requirements. Some programs may require additional credits in computer technology so students should check with the program advisor to determine if they are required to take other computer technology courses.

Diné Studies: 3-4 Credits
(Check individual program requirements)

NAV-101	Navajo Language	4 crs
NAV-110	Foundations of the Navajo Culture	3 crs
NAV-211	Navajo History	3 crs
NAV-221	Navajo Government	3 crs
NAV-225	Diné Philosophy of Education	3 crs
NAV-195/295	Topics in Diné Studies	1-3 crs

Note: All of the Diné Studies courses listed, except NAV-195/295, are included on the New Mexico Articulation Matrix as transferable courses (within the New Mexico higher education system).

A.S. Degree for Early Childhood Multicultural Education is described within the program description.

Baccalaureate Degree

Any student seeking a **Baccalaureate degree** must complete a minimum of 36 credit hours of general education and 43 credit hours of core courses. Students in the baccalaureate degree programs are required to complete a minimum of 30 credit hours in the upper division courses, i.e., 300 and 400 level courses before they can graduate.

Total General Education Requirement 36credits

CMP-101	Introduction to Computers	3 crs
*ENG-110	Freshman Composition	3 crs
ENG-111	Composition & Research **OR**	
ENG-112	Technical Research & Writing	3 crs
*MTH-121	College Algebra	4 crs
XXX-XXX	Physical Science	8 crs
NAV-XXX	Dine Studies	3 crs
XXX-XXX	Social/Behavioral Sciences/Humanities	12crs

Degree students are advised to take CMP-101 in their first semester as subsequent courses in many programs, and especially in general education English courses, will rely on the use of computer technology and/or will require computer-generated assignments.

Physical and/or Natural Sciences - 8 Credits
(choose any course below)

AST-110	The Solar System	4 crs
AST-112	The Cosmic System	4 crs
BIO-110	Elements of Biology	4 crs
BIO-120	Principles of Biology I	4 crs
BIO-122	Principles of Biology II	4 crs
BIO-130	Human Anatomy & Physiology I	4 crs
BIO-131	Human Anatomy & Physiology II	4 crs
BIO-224	Microbiology	4 crs
CHM-110	Elements of Chemistry	4 crs
CHM-120	General Chemistry I	4 crs
CHM-122	General Chemistry II	4 crs
ENV-102	Environmental Science I	4 crs
ENV-182	Environmental Science II	4 crs
GEO-101	Principles of Geology	4 crs
GEO-150	Environmental Geology	4 crs
PHY-101	Introduction of Physics	4 crs
PHY-112	Algebra-based Physics II	4 crs
PHY-121	Calculus-based Physics I	4 crs
PHY-122	Calculus-based Physics II	4 crs
SCI-101	Physical Science	4 crs
SCI-195/295	Topics in Science 1	4 crs

Humanities & Behavioral/Social Sciences – 12 Credits
Behavioral/Social Sciences Courses:

ECN-111	Introduction to Economics	3 crs
ECN-195/295	Topics in Economics	1–3 crs
LAW-101	Introduction to Law	3 crs
LAW-106	American Indian Law	3 crs
LAW-195/295	Topics in Law	1–3 crs
NAV - 221	Navajo Government	3 crs
PSY-105	Introduction to Psychology	3 crs
PSY-210	Developmental Psychology	3 crs
PSY-195/295	Topics in Psychology	1–3 crs

SOC-101	Introduction to Sociology	3 crs
SOC-210	Sociology of Social Problems	3 crs
SOC-195/295	Topics in Sociology	1–3 crs
SSC-100	College Success Skills	3 crs
SSC-195/295	Topics in Behavioral/Social Science	1–3 crs

Humanities Courses:

ART-110	Art Studio I	3 crs
ART-195/295	Topics in Art 1	3 crs
COM-130	Public Speaking	3 crs
COM-150	Interpersonal Communication	3 crs
COM-210	Journalism	4 crs
COM-195/295	Topics in Communication	1–3 crs
ENG-150	Introduction to Literature	3 crs
ENG-155	Creative Writing	3 crs
ENG-160	Native American Literature	3 crs
ENG-161	Comparative Ethnic Literature	3 crs
ENG-195/295	Topics in English Studies	1–3 crs
HST-210	American History to 1877	3 crs
HST-211	American History Since 1877	3 crs
HST-220	History of the American Southwest	3 crs
HST-195/295	Topics in History	1–3 crs
HUM-160	Global Cinema	3 crs
HUM-170	Native Americans in Media	3 crs
HUM-195/295	Topics in Humanities	1–3 crs
xNAV-101	Navajo Language	4 crs
xNAV-110	Foundations of the Navajo Culture	3 crs
xNAV-211	Navajo History	3 crs
xNAV-195/295	Topics in Diné Studies	1–3 crs
PED-101	Physical Education	1 cr
PED-120	Strength Training	1 cr
PED-130	Jogging	1 cr

Diné Studies - 3 credits

NAV-101	Navajo Language	4 crs
NAV-110	Foundations of the Navajo Culture	3 crs
NAV-211	Navajo History	3 crs
NAV-221	Navajo Government	3 crs
NAV-225	Diné Philosophy of Education	3 crs
NAV-195/295	Topics in Diné Studies	1–3 crs

BACHELOR DEGREE PROGRAMS

BACHELOR OF APPLIED SCIENCE DEGREES

INFORMATION TECHNOLOGY

This program is structured to prepare students for immediate and continuing employment in two different areas: Careers in programming and computer or network operations and digital movie-making, digital sound, and graphics.

The Bachelor of Applied Science in Information Technology has a unique blend of computer programming and information technology skills. This program focuses on introducing and mastering parallel programming methodologies. It also blends a solid set of information technology skills with programming that includes computer security, web design, database design, and data center and cluster design and maintenance. Graduates of the program will be able to design, build, maintain, and program for distributed high performance computing and cloud computing environments that meet the global needs of business and scientific communities.

Any student seeking a **Bachelor of Applied Science degree** must complete a minimum of 36 credit hours of general education and 84 credit hours of core courses. Students in the baccalaureate degree programs are required to complete a minimum of 30 credit hours in the upper division courses, i.e., 300 and 400 level courses before they can graduate. The required courses are listed below.

Information Technology Requirements (120 credits)

INFORMATION TECHNOLOGY PROGRAM		
Semester FIRST		**CREDITS**
ENG 110	Freshman Composition	3
MTH 121	College Algebra	4
IT 115	Drawing/ Visual Culture	3
IT 105	Introduction to Programming	3
IT 110	Introduction to Digital Logic/Hardware Programming	3
Semester TWO		
ENG 112	Technical Research and Writing	3
MTH 123	Trigonometry	4
IT 125	Introduction to Digital Video	3
IT 142	Web Design Concepts	3

IT 150	Introduction to System Administration	3
Semester THREE		
HUM 170	History of Native Americans in Media	3
MTH 162	Calculus I	4
IT 220	Database Design	3
IT 218	Algorithms & Data Structures	3
IT 222	Computer Security	3
Semester FOUR		
NAVXXX	Dine Studies	3
HUMXXX	Humanities/Social Science Course	3
IT 280	IT Project Management	3
IT 260	Internetworking	3
IT 270	Web Standards	3
Semester FIVE		
HUMXXX	Humanities/Social Science Course	3
PHY 111	Algebra Based Physics	4
IT 315	Multicore Programming	4
IT 332	Network Security	4
Semester SIX		
HUMXXX	Humanities/Social Science Course	3
SCIENCE	Science Course	4
IT 375	Javascript Core Skills	4
IT 405	Cluster Maintenance/Management	4
Semester SEVEN		
CMP 101	Introduction to Computers/ Elective	3
IT 435A	HPC/Parallel Computing	3
IT 440A	Advanced Technology Security	3
IT 472A	Web App Development	3
IT 485A	Advanced Technology Administration	3
Semester EIGHT		
IT 435B	HPC/Parallel Computing	3
IT 440B	Advanced Technology Security	3
IT 472B	Web App Development	3
IT 485B	Advanced Technology Administration	3
TOTAL CREDIT HOURS REQUIRED		**120**

INFORMATION TECHNOLOGY - NEW MEDIA

The New Media in the Bachelor of Applied Science in Information Technology prepares students to be effective in video/audio production and post-production environments that also includes a unique blend of information technology skill sets. Students will be introduced to the latest in film-making, web, and other media presentation technologies and methodologies as well as the technologies of information technology necessary to understand, build, and maintain the infrastructure that supports the development and dissemination of new media. Graduates of the program with an emphasis in new media will be able to create and deliver content and understand and support the infrastructure necessary to produce new media that includes the visualization of large data sets for varied industries.

Information Technology - New Media Requirements (120 credits)

INFORMATION TECHNOLOGY - NEW MEDIA PROGRAM		
Semester FIRST		**Credits**
ENG 110	Freshman Composition	3
MTH 121	College Algebra	4
IT 115	Drawing/ Visual Culture	3
IT 105	Introduction to Programming	3
IT 110	Introduction to Digital Logic/Hardware Programming	3
Semester TWO		
ENG 112	Technical Research and Writing	3
MTH 123	Trigonometry	4
IT 125	Introduction to Digital Video	3
IT 142	Web Design Concepts	3
IT 150	Introduction to System Administration	3
Semester THREE		
HUM 170	History of Native Americans in Media	3
MTH 162	Calculus I	4
IT 220	Database Design	3
IT 215	Motion Graphics	3
IT 275	Media Criticism	3
Semester FOUR		
NAV 101	Introduction to Navajo Language	4
IT 200	Sound Design	3
IT 280	IT Project Management	3
IT 225	Digital Video II	3
IT 350	Programming Interactivity	3
Semester FIVE		
PHY 111	Algebra Based Physics	4
IT 318	Audio Projects	4
IT 335	Data Visualization	3
HUM 305	Film History	3
Semester SIX		
SCIENCE	Physical Science Course	4
IT 345	Editing Concepts	3

IT 445	3D Modeling/Animation	4
IT 450	Interactive Project	4
Semester SEVEN		
HUMXXX	Humanities/Social Sciences	3
HUMXXX	Humanities/Social Sciences	3
IT 480	Aural/Optical Perception	3
IT 490A	Senior Project	3
Semester EIGHT		
HUMXXX	Humanities/Social Sciences	3
CMP 101	Introduction to Computers/Elective	3
IT 490B	Senior Project	3
ITS 415	Directing and Producing	3
ITXXX	New Media Elective	3
TOTAL CREDIT HOURS REQUIRED		**120**

**Some General Education and IT courses have prerequisites. Please check the course description for the appropriate prerequisite course(s).

ADVANCED MANUFACTURING TECHNOLOGY

The Advanced Manufacturing Technology will provide students with a strong background in traditional methods while emphasizing new and emerging manufacturing methods. Students will acquire the specialized skills needed to digitize and computer model manufacturing processes including integrated simulations of multiple processes representing an entire plant. Foundational course work in materials and material processing will also be stressed.

Upon graduation students will be able to apply commercially current methods of manufacturing in addition to creating simulations of these manufacturing processes enabling accurate detailed understanding of the dynamics of the process. These skills will promote identification and resolution of potential failures and bottlenecks. The creation of the simulations will require the exercise of the digital scanning skills included in the curriculum. The student's process knowledge gained though simulation skills will be directly applicable to the design and operation of real processes on the shop floor.

The curriculum utilizes multiple, state of the art, additive manufacturing technologies in conjunction with commercial CNC machine tools and state of the art, computerized metrology systems. The multiple scanning technologies and industrially current software are used in the instruction of collecting and processing of digital data for integration into the multi-level computer simulation(s)

The successful graduate will have possible employment with major manufacturing firms, processing industries such as the gas and oil industry, mining and food processing in addition to the construction industry, architecture also, film and media. The broad scope of the curriculum will provide a good preparation for entrepreneurial opportunities.

Advanced Manufacturing Technology Requirements: 120 Credits

ADVANCED MANUFACTURING ENGINEERING		
DIGITAL MANUFACTURING REQUIREMENT COURSES		
Semester FIRST		**CREDITS**
ENGR103	Introduction to Engineering	3
ENGR123	Computer Skills for Engineering	3
ENGR130	Engineering Graphics & Solid Modeling	3
ENG 110	Freshman Composition	3
Semester TWO		
ENGR169	Basic Probability and Statistics	3
ENGR143	Characteristics of Engineering Material	3
IT 105	Introduction to Programming	3
NAV 211	Navajo History	3
MTH 121	College Algebra	4
Semester THREE		
ENG 112	Technical Research and Writing	3
ENGR230	Advanced Engineering Graphics	3
MTH 123	Trigonometry	4
IE 223	Design and Manufacturing Process I	3
PHY 111	Algebra Based Physics I	4
Semester FOUR		
AMT 311	Laser Scanning Methods/Techniques	3
AMT 210	Applied GD&T	3
AMT 370	Robotics/Offline Programming	3
AMT 325	Digital Inspection/Quality Control	3
Semester FIVE		
MTH 162	Calculus I	4
ME 345	Statics	3
CHM 120	General Chemistry I	4
IE 243	Strength of Materials	3
HUMXXX	Humanities Elective	3
Semester SIX		
IT 340	Computer Simulation and Analysis	3
ME 305	Introduction to System Dynamics	3
IE 213	Structure & Property of Materials	3
IE 483	Rapid Prototyping	3
IE 343	Design and Manufacturing Process II	3
Semester SEVEN		
AMT 401	Capstone	4
IE 463	Facility Planning & Material Handling	3
IE 484	Computer Aided Manufacturing & Robotics	3
IE 433	Metrology and Instrumentation	3
HUMXXX	Humanities Elective	3
Semester EIGHT		
AMT 412	Advanced Digital Inspection	3
AMT 415	Simulation of Manufacturing Systems	3
AMT 430	PLC Programming	3
HUMXXX	Humanities Elective	3
HUM170	History of Native Americans in Media	3
TOTAL CREDIT HOURS REQUIRED		**120**

BACHELOR OF ARTS DEGREE

DINÉ CULTURE, LANGUAGE AND LEADERSHIP

This 4 year-degree degree program is to produce graduates for employment as cultural teachers/instructors/professors, cultural interpreters, cultural social workers, health care workers, community service workers, community liaisons, health educators, various leadership roles and other relevant occupations. The program consists of a variety of practical hands-on projects along with formal classroom instruction, which produces a well-rounded individual able to perform the duties required for entering Diné cultural related occupations. Students participate in classroom, hands- on laboratory, and field experiences while working with instructors and mentors in real life situations. Students are also required to serve as interns after the fourth semester. Both English and Navajo languages are used in all areas of Western and Diné cultural education. The program is designed with two tracks: Course of study for Navajo Speakers and Course of Study for Non-Navajo Speakers.

Students in the baccalaureate degree programs are required to complete a minimum of 30 credit hours in the upper division courses, i.e., 300 and 400 level courses before they can graduate.

B.A. - DCLL Requirements: 126 Credits

B.A. - DINE CULTURE, LANGUAGE AND LEADERSHIP		
General Education Requirement		38 Crs
CMP 101	Introduction to Computers	3
ENG 110	Freshman Composition	3
ENG 111	Composition & Research	3
HUM/SSC	HUMANITIES/SOCIAL SCIENCES	12 Crs

COM 150	1 Interpersonal Communication	3
	2 Hum/Soc Sci	3
	3 Hum/Soc Sci	3
	4 Hum/Soc Sci	3
MTH 121	College Algebra	4
NAV 211	Navajo History	3
NAV 221	Navajo Government	3
SCI	SCI w/ Lab (AST, BIO, ENV, GEO, PHY)	8
General Diné Studies Program		**18 Crs**
ECM 116	Family & Community Collaboration	3
IT 275	Media Criticism	3
MTH 213	Statistics	3
NAV 110	Foundation of Navajo Culture	3
LAW 106	American Indian Law	3
NAV 225	Diné Philosophy of Education	3
DCLL CORE COURSES		**Credit**
NAV 101 NAV 102	Introduction to Navajo Language –Non-Spkr Introduction to Navajo Language -Non-Spkr	4
NAV 121	International Leadership	3
NAV 201 NAV 202	Introduction to Navajo Language (Speaker) Introduction to Navajo Language (Speaker)	4
NAV 210	Contemporary Navajo Life & Experiences	3
NAV 212	Navajo Historical Perspective	3
NAV 250	Introduction to Linguistics	4
NAV 301	Intermediate Navajo Language	4
NAV 302	Intermediate Navajo Language	4
NAV 310	Colonization and De-Colonization	3
NAV 321	World Indigenous Leadership	3
NAV 401	Advanced Navajo Language	4
NAV 402	Advanced Navajo Language	4
NAV 410	Traditional Navajo Cultural Practices & Theory	3
NAV 411	Cultural Revitalization: Problems, Solution & Possibilities	3
NAV 421	Native North American Leadership	3
NAV 431	Theoretical Indigenous Leadership	3
NAV 441	Traditional Navajo Leadership	3
NAV 442	Contemporary Native Gender, Politics & Leadership	3
NAV 443	Navajo Morals & Ethics	3
NAV 490A	Researching Navajo (Senior Thesis)	3
NAV 490B	Researching Navajo (Senior Thesis)	3
TOTAL REQUIRED CREDITS:		**126**

BACHELOR OF FINE ARTS DEGREE

CREATIVE WRITING AND NEW MEDIA

The Bachelor of Fine Arts degree program in Creative Writing and New Media that is offered by Navajo Technical University will provide the knowledge and skills needed to secure gainful employment in a digital environment, to publish and market creative works online, or simply to function as a full participant in this new digital age.

The Bachelor of Fine Arts Degree in Creative Writing and New Media develops skilled writers who are technologically savvy, in order to foster the continuance of the narrative legacy of the Navajo people and expand its reach into the digital realm, and to advance participation in the international digital revolution. The transition to digitization is everywhere affecting education, business, and the arts. The digitization of the publishing industry, in particular, and the ever-increasing scope and influence of New Media, is creating unprecedented opportunities for writers, artists, and entrepreneurs worldwide, including the Navajo Nation.

The unique hybrid nature of the program, which builds upon a core Creative Writing program with additional coursework in New Media studies, offers a unique opportunity for students to go beyond the scope of the traditional Creative Writing program— which typically culminate with the production of a hard-copy manuscript—and produce a visual or digital product. The Navajo Nation is producing more and more writers, filmmakers, web-based designers and new media artists, clearly demonstrating a growing interest in these fields.

- **General Education Requirements - 36 credits**
- **Department Requirements - 30 credits**
- **Program Requirements - 36 credits**
- **Track A** *(Moving Image)* **or Track B** *(Interactive Design)* **- 18 credits**
-

B.F.A.- CREATIVE WRITING AND NEW MEDIA		
GENERAL EDUCATION REQUIREMENT		**Credits**
CMP 101	Introduction to Computers	3
ENG 110	Freshman Composition	3
ENG 111 ENG 112	Composition & Research **OR** Technical Research & Writing	3
ENG 150	Introduction to Literature	3
MTH 121	College Algebra	4

NAV 101 NAV 201	Navajo Language for Non Speakers **OR** Navajo Language for Native Speakers	3-4
Physical Sciences: BIO110, BIO120, BIO121, BIO131, BIO224, CHM110, GEO101, GEO150 OR PHY101		8
Humanities/Soc Science: HUM160, HUM170, HUM301, SOC101, PSY105		9
Semester THREE		
COM 130	Public Speaking	3
ENG 155	Creative Writing	3
ENG 160	Native American Literature	3
IT 115	Drawing/Visual Culture	3
ENG 161	Comparative Ethnic Literature	3
Semester FOUR		
ENG205	Contemporary Navajo Literature	3
ENG 201 ENG 202 ENG 203	Beginning Fiction Writing **OR** Intermediate Poetry Writing **OR** Begin Writing for Stage and Screen	3
IT 111	Human/Computer Interaction	3
IT 125	Introduction to Digital Video	3
PSY105	Introduction to Psychology	3
Semester FIVE		
ENG 301 ENG 302 ENG 203	Intermediate Fiction Writing **OR** Intermediate Poetry Writing **OR** Beginning Writing for Stage and Screen	3
ENG 304	Creative Non Fiction	3
HUM 301	Film History	3
IT 103	Creativity and Technology	3
IT 160	Introduction to Digital Ethics	3
Semester SIX		
ENG 401 ENG 402 ENG 403	Advanced Fiction Writing **OR** Advanced Poetry Writing **OR** Advance Writing for Stage and Screen	3
ENG 404	Creative Writing Thesis	3
ENG 405	Student Anthology	3
IT 335	Data Visualization	3
Semester SEVEN *		
IT 142	Web Design Concepts (B)	3
IT 215	Motion Graphics (A)	3
IT 270	Web Standards (B)	3
IT 200	Sound Design (A)	3
IT 490a	Senior Project (Capstone) (A/B)	3
Semester EIGHT *		
IT 490b	Senior Project (Capstone) (A/B)	3
CMP 300	Digital Publishing (B)	3
IT 480	Aural/Optical Perception (A/B)	3
ITS 400	Directing and Producing (A/B)	3
TOTAL REQUIRED CREDIT HOURS		**120**

BACHELOR OF SCIENCE DEGREES

EARLY CHILDHOOD MULTICULTURAL EDUCATION

"Our Children will learn more because you learned more"

Navajo Technical University is dedicated to prepare Early Childhood Professionals in a culturally and linguistically diverse environment at a baccalaureate level. Students work intensely and progressively to prepare for their State Early Childhood Teacher Licensure from Birth to 8 years old. This program provides a unique opportunity to assist present or future teachers of young children to use child development knowledge within the childcare, preschool and primary schools. This includes practical field experience, which will enhance their professional practice and gain competence in working with Infants through 8 years old and their families. Students complete 16 full weeks of Student Teaching at an approved site during their final semester. We look forward to you to join us to bring about change in the community in order to improve the lives and education of our children.

Students are required the following:
- Federal, State and Navajo Nation Fingerprinting and background check.
- CPR/First Aid and Food Handling Training

B.S. - ECME Program Requirements: 120 Credits

B.S. - EARLY CHILDHOOD MULTICULTURAL EDUCATION		
GENERAL EDUCATION REQUIREMENTS:		**Credits**
COM XXX	COM130, COM150	3
ENG XXX	ENG110, ENG 111, ENG 150 **OR** ENG 155	9
MTH 121	College Algebra	4
SCIENCE	BIO110, GEO101	8
HUM XXX	HST210, HST211, NAV211	9
SOCIAL SCIENCE	POS230, PSY105, PSY210, SOC101 OR LAW101 OR ECN111	12
CMP 101	Introduction to Computers	3
NAV 101	Navajo Language	4
EARLY CHILDHOOD CORE COURSES		
ECM 100	Introduction to Early Childhood	3
ECM 110	Child Growth Development and Learning	3
ECM 112	Health, Safety and Nutrition	2

ECM 116	Family and Community Collaboration	3
ECM 125	Introductory to Literacy and Reading Development	3
ECM 210	Guiding Young Children	3
ECM 245	Professionalism	2
ECM 220	Curriculum Development and Implementation I	3
ECM 220A	Practicum I	2
ECM 225	Curriculum Development and Implementation II	3
ECM 225A	Practicum II	2
NAV 225	Dine Philosophy of Education	3
ECM 235	Assessment of Children and Evaluation of Programs	3
ECM 310	Research in Child Growth, Development, and Learning	3
ECM 316	Family, Language, and Culture	3
ECM 340	Young Children with Diverse Abilities	2
CHOOSE ONLY ONE LICENSURE PROGRAM :		
EARLY CHILDHOOD TEACHER LICENSURE COURSES: Birth through Age 4		
ECM 304	Integrated Curriculum-Birth through Age 4	4
ECM 325	Emergent Literacy	3
ECM 350	Advanced Caregiving for Infants and Toddlers	3
ECM 490	Teaching and Learning Practicum (Birth through Age 4)	2
ECM 493	Student Teaching Seminar	3
ECM 495	Student Teaching	9
EARLY CHILDHOOD TEACHER LICENSURE COURSES: Birth through Age 8		
ECM 318	Teaching and Learning: Math and Science	4
ECM 428	Teaching and Learning: Reading and Writing	3
ECM 438	Teaching and Learning: Social Studies Fine Arts and Movement	3
ECM 492	Teaching and Learning Practicum (Birth through Age 8)	2
ECM 493	Student Teaching Seminar	3
ECM 495	Student Teaching	9
TOTAL REQUIRED CREDIT HOURS:		**120**

**Some General Education and ECME courses have prerequisites. Please check the course description for the appropriate prerequisite course(s).

ELECTRICAL ENGINEERING

A Bachelor's degree in electrical engineering requires **123** credit hours and the electrical engineering degree is designed for a four-year program of study.

- **Pre-EE Requirements - 10 Credits**
- **Core EE Requirements - 60 Credits**
- **General Education Requirements - 32 Credits**
- **Concentration Electives – 21 Credits**

A student needs to complete general courses and general education electives within the first two years of study with a grade point average of 2.0 or better before taking the upper level core courses (300 and 400-level courses). However, to complete the program within four years, a credit load of 15 to 18 is recommended.

The electrical engineering program is designed to prepare students to design and improve electrical, electronic and computer systems. The program combines practical exposure to the most modern technologies available with a theoretical foundation that empowers students to master future changes and innovations.

Students can select them following area of concentration:

- Computer Engineering/Digital Systems
- Electric Power and Energy Systems
- Manufacturing

B.S. - ELECTRICAL ENGINEERING		
Semester ONE		
EE 101	Electrical Engineering Fundamentals I	3
ENGR 103	Introduction to Engineering	3
MTH 105	Mathematics for Engineering Applications	3
ENG 110	Freshman Composition	3
NAV 101	Introduction to Navajo Language	4
Semester TWO		
EE 102	Electrical Engineering Fundamentals II	3
EE 103	Digital Logic Design	3
CHM120	General Chemistry I	4
ENG 111	Composition and Research	3
HUMXX	Humanities Elective	3
Semester THREE		
EE 201	Electrical Engineering Fundamentals III	3
MTH 205	Discrete Mathematics	3
MTH162	Calculus I	4
MTH410	Linear Algebra	3
SSCXX	Social Science or Behavioral Science Elective	3
Semester FOUR		
EE 202	Electrical Engineering Fundamentals IV	3
EE 203	Electronics I	3
EE 212	Instrumentation	2
MTH 163	Calculus II	4
PHY111/121	Algebra or Calculus Based Physics I	4
Semester FIVE		
EE 301	Signals & Systems	3
EE 302	Electromagnetic Fields & Waves	3
MTH 310	Differential Equations	4
PHY112/122	Algebra or Calculus Based Physics II	4
XXX	Concentration Course	3

Semester SIX		
EE 303	Probability & Random Signals	3
EE 304	Energy Systems & Power Electronics	3
EE 310	Embedded System Design	3
EE 312	Instrumentation II	2
EE 320	Instrumentation & Process Control	3
XXX	Concentration Course	3
Semester SEVEN		
IE 380	Project Management	3
EE 406	Computer Networks	3
XXX	Concentration Course	3
XXX	Concentration Course	3
Semester EIGHT		
EE 423	Capstone Design **	3
XXX	Concentration Course	3
XXX	Concentration Course	3
XXX	Concentration Course	3
TOTAL REQUIRED CREDIT HOURS:		**122**

**capstone design course must be related to the chosen concentration.

Listing of Concentrations: *choose one concentration*

Computer Engineering/Digital Systems Concentration		
ITS 250	Data Structures	3
EE 230	Introduction to VHDL and FPGA	3
EE 330	Computer Organization & Assembly Language Programming	3
EE 430	Computer Architecture and Design	3
EE 440	Operating Systems I	3
EE 313	Summer Internship * (Computer Engineering)	3
XXX	Technical Elective (Computer Engineering)	3
Electrical Power and Energy Systems Concentration		
EE 370	Electrical Machinery	3
EE 460	Electrical Power Plants	3
EE 470	Electric Power Devices	3
EE 471	Power System Analysis	3
EE 472	Power Electronics & Power Management	3
EE 313	Summer Internship * (Electrical Power)	3
XXX	Technical Elective (Electrical Power)	3
Manufacturing Concentration		
ENGR234	Engineering Statistics	3
IE 235	Lean Production	3
ENGR313	Engineering Economics	3
IE 363	Design of Experiment	3
IE 413	Quality Control	3
IE 483	Rapid Prototyping	3
EE 313	Summer Internship* (Manufacturing)	3

Listing of Technical Electives:

EE 223 Semiconductors I   EE 230 Introduction to VHDL/ FPGA
EE 330 Computer Organization & Assembly Language Programming
EE 343 Introduction to VLSI Design3   EE 370 Electrical Machinery
EE 313 Summer Internship*   EE 403 Digital VLSI
EE 407 Communication Systems   EE 413 Analog VLSI
EE 430 Computer Architecture & Design EE 460 Electrical Power Plants
EE 470 Electric Power Devices   EE 471 Power System Analysis
EE 472 Power Electronics & Power Mgmt EE 440 Operating Systems I
IT 315 Multicore Programming   MTH 410 Linear Algebra
MTH433 Numerical Analysis w Computers EE-x95 Topics in EE
EE 196 Freshman Research Project   EE 296 Sophomore Research
EE 396 Junior Research Project

*Summer internship should be taken in a field that supports the chosen concentration.

ENVIRONMENTAL SCIENCE AND NATURAL RESOURCES

The Environmental Science and Natural Resources Bachelor of Science degree program focuses on Environmental and Natural Resources management with an emphasis on environmental regulations compliance. The program is designed to meet the needs of tribal, state, and federal environmental and natural resources management and enforcement entities. The program provides a broad background in natural resources management, covering natural science courses, chemistry, mathematics, statistics, environmental law, and regulations enforcement. The program focuses on addressing environmental and natural resources management in Native American communities and homelands.

Graduates of this program should be able to seek gainful employment in entities and organizations that deal with natural resources management, environmental protection, energy production, environmental protection and enforcement, and mineral extraction and processing.

A Bachelor's degree in Environmental Science requires **123** credit hours and the Environmental Science degree is designed for a four-year program of study. Students in the baccalaureate degree programs are required to complete a minimum of 30 credit hours in the upper division courses, i.e., 300 and 400 level courses before they can graduate.

- **General Science Requirements - 32 Credits**
- **General Education Requirements - 35 Credits**
- **Core Environmental Science Courses - 56 Credits**

A student needs to complete general courses and general education electives within the first two years of study with a grade point average of 2.0 or better before taking the upper level core courses (300 and 400-level courses).

B.S. - ENVIRONMENTAL SCIENCE AND NATURAL RESOURCES PROGRAM		
Semester ONE		
ENV 102	Environmental Science with Lab	4
MTH 121	College Algebra	4
CMP 101	Introduction to Computers	3
GIT 105	Fundamentals of Cartography	3
ENG 110	Freshman Composition	3
Semester TWO		
ENV 182	Environmental Science II with Lab	4
CHM 120	General Chemistry I	4
MTH 123	Trigonometry	3
BIO 110	Elements of Biology	4
Semester THREE		
CHM 122	General Chemistry II	4
ENV 216	Fundamentals of Ecology with Lab	4

COM 130	Public Speaking	3
HUM 170	History of Native Americans in Media	3
ENV 245	Natural Resources I	4
Semester FOUR		
MTH 150	Pre-Calculus	4
ENV 289	Natural Resources II	4
ENGR234	Engineering Statistics	3
HST 211	American History 1877 to Present	3
Semester FIVE		
ENG 112	Technical Research and Writing	3
CHM 254	Environmental Chemistry with Lab	4
ECN 111	Introduction to Economics	3
GIT 110	Geographic Information Systems I	3
Semester SIX		
ENV 255	Introduction to Hydrology with Lab	4
ENV 350	Environmental Law I	3
ENV 365	Natural Resources Management w/ Lab	4
CHM 286	Inorganic Chemistry with Lab	4
GIT 111	Geographic Information Systems II	3
Summer Session		
ENV 312	Summer Internship	3
Semester SEVEN		
ENV 425	Advanced Environmental Law	3
GIT 202	Remote Sensing	4
ENV 485	Environmental Regulation Enforcement	3
CHM 468	Organic Chemistry with Lab	4
Semester EIGHT		
GIT 220	Database Query	3
ENV 464	Capstone	4
NAV 225	Dinè Philosophy of Education	3
GIT 210	Service Learning Project	1
TOTAL REQUIRED CREDITS:		**123**

*** Some General Education and ENV courses have a prerequisite. Please check course descriptions for the appropriate prerequisite course(s).**

INDUSTRIAL ENGINEERING

Industrial Engineering program at Navajo Technical University focuses on material science, manufacturing processes, CAD/CAM, and rapid prototyping. Industrial Engineering is a branch of engineering that deals with design and improvement of integrated systems, including human resources, materials, equipment, and energy; using mathematics, physical sciences, and social sciences to maximize production of goods and services. In order to maximize efficiency, industrial engineers study product requirements carefully and then design manufacturing and information systems to meet those requirements using physical and mathematical models. In addition, they develop management control systems to help in financial planning and cost analysis, and they design production planning and control systems to coordinate activities and ensure product quality. Furthermore, they design and improve systems for the physical distribution of goods and services and determine the most efficient plant locations as part of facilities planning operations. In a nutshell, industrial engineers determine the most effective ways to use the basic factors of production; namely people, machines, materials, information, and energy to make products and provide services.

The program is designed to help the Native Nation, state, and federal agencies and companies prepare for careers in the 21st century. Graduates of Industrial Engineering should be able to seek gainful employment in manufacturing and servicing companies such as petroleum, pharmaceuticals, automotive, industrial products, transportation, aerospace, food products, consultants, computers, and consumer products, and communications. Also, graduates of this program can be employed in companies that need the following personnel: manufacturing engineers, quality control engineers, process engineers, field engineers, facilities engineer, logistic manger, operations manager, materials engineer, and project manager.

A Bachelor's degree in Industrial Engineering requires **123** credit hours and is designed for a four- year program of study. Students in the baccalaureate degree programs are required to complete a minimum of 30 credit hours in the upper division courses, i.e., 300 and 400 level courses before they can graduate. The minimum credit load for a full-time student is 12 credit hours per semester.

- **General Education Requirements -22 Credits**
- **Core IE Requirements - 72 Credits**
- **Mathematics and Sciences - 26 Credits**
- **Technical Electives - 3 Credits**

**B.S. Degree in Industrial Engineering Requirements
123 Credits**

INDUSTRIAL ENGINEERING REQUIREMENTS		
Semester ONE		
ENG 110	Freshman Composition	3
IT 105	Introduction to Programming	3
MTH162	Calculus I	4
ENGR103	Introduction to Engineering	3
ENGR123	Computer Skills for Engineering	3
Semester TWO		
NAV101	Navajo Language	4
HUM170	History of Native Americans in Media	3
ENGR130	Engineering Graphics	3
ENGR169	Basic Statistics and Probability	3
ENGR143	Characteristics of Engineering Materials	3
Semester THREE		
MTH163	Calculus II	4
CHM120	General Chemistry I	4
ENG111	Composition & Research	3
ENGR230	Advanced Engineering Graphics	3
ENGR236	Inferential Engineering Statistics	3
Semester FOUR		
HST 211	American History	3
PHY111	Algebra Based Physics	4
IE 235	Lean Production	3
COM130	Public Speaking	3
Semester FIVE		
IE 223	Design & Manufacturing Processes I	3
ME345	Statics	3
MTH410	Linear Algebra	3
ENGR313	Engineering Economics	3
Semester SIX		
MTH 310	Differential Equations	4
ME 353	Fluid Mechanics	3
IE 323	Human Factors in Product Design	3
IE 343	Design & Manufacturing Processes II	3
IE 363	Design of Experiment	3
Semester SEVEN		
IE 380	Project Management	3
IE 413	Quality Control	3
IE 433	Metrology & Instrumentation	3
IE 453	Engineering Optimization	3
ME 354	Thermodynamics	3
Semester EIGHT		
IE 424	Capstone	3
IE 463	Facility Planning & Design	3
IE 473	Inventory Control & Production Plan	3
IE 494	System Simulation	3
Technical ELECTIVE: Choose One:		3
	IE 483 Rapid Prototyping AMT 311- Laser Scanning Methods and Technique AMT 370 Robotics/Offline Programming PHY121 Calculus Based Physics, Special Topics	
Summer Session		
IE 312	Summer Internship	3
TOTAL REQUIRED CREDIT HOURS		**123**

ASSOCIATE DEGREE PROGRAMS

ASSOCIATE OF APPLIED SCIENCE

ACCOUNTING

The Accounting program offers an Associate of Applied Science in Accounting degree and a Certificate in Bookkeeping. As an Accounting Technician, a student will be able to pursue further education in Accounting or seek employment.

Pre-requisite: Students must complete the Bookkeeping Certificate program in order to be accepted into the Accounting degree program.

ADMINISTRATIVE OFFICE SPECIALIST

The Administrative Office Specialist program consists of certificate and Associate of Applied Science degree paths. Attitudes and knowledge of today's workplace are emphasized for students in both certificate and degree courses. All of the equipment and software found in today's business offices is utilized in our classrooms and curriculum. This program can launch a career in a business/office environment or be used as a stepping stone on the path to a higher professional degree.

A.A.S. Degree in Accounting Requirements: 62 credits

ACCOUNTING DEGREE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
English/Communication:		9
	ENG 110	
	COM130 or COM 150	
Mathematics:		4
	MTH 121 or higher	
Dine Studies:		3-4
Natural or Physical Science:		8
Humanities/ Social Science:		6
Information Tech/Applied Computers:		3
	CMP 101 or higher	
ACCOUNTING CORE REQUIREMENTS		
Semester ONE		**Credits**
ECN 111	Introduction to Economics	3
ACG 201	Payroll Accounting	3
ACG 204	Advanced Accounting I	3
ACG 210	Principles of Management	3
Semester TWO		
ACG 211	Accounting Software Applications	3
ACG 212	Introduction to Finance	3
ACG 213	Introduction to Fund Accounting	3
Semester THREE		
ACG 214	Advanced Accounting II	3
ACG 215	Income Tax II	3
ACG 216	Principles of Marketing	3
Semester FOUR		
LAW203	Business Law	3
ACG 220	Cost Accounting	3
ACG 225	Managerial Accounting	3
TOTAL REQUIRED CREDIT HOURS		**62**

A.A.S. - Administrative Office Specialist Requirements: 62 Credits

ADMINISTRATIVE OFFICE SPECIALIST DEGREE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
English/Communication:		**9**
	ENG 110	
	COM130 or COM 150	
	ENG 111	
Mathematics:		**4**
	MTH 121 or higher	
Dine Studies:		**3-4**
Natural or Physical Science:		**4**
Humanities/ Social Science:		**9**
Information Tech/Applied Computers:		**3**
	CMP 101 or higher	
ACCOUNTING CORE REQUIREMENTS		
Semester ONE		**Credits**
ADM 105	MS Excel Application	3
ADM 210	MS PowerPoint Presentation Skills	3
Semester TWO		
ADM 201	Advanced Document Formatting	3
ADM 204	Machine Transcription	3
Semester THREE		
ADM 202	Office Communication	3
ADM 208	Office Accounting	3
LAW 203	Business Law	3
Semester FOUR		
ADM 203	Advertising & Public Relations Strategies	3
ADM 205	Office Management	3
ADM 213	Internship	3
TOTAL REQUIRED CREDIT HOURS		**62**

AUTOMOTIVE TECHNOLOGY

Automotive Technology program concentrates primarily on traditional gas powered engines. The students will be able to demonstrate on Lab Job Sheets, pass the practice tests to prepare to become ASE certified, understand an ASE certified technician's responsibility to nature and the environment regarding shop waste disposal, basic understanding of Work Order Intake and Delivery processes. This degree will allow students to learn the scope of skills and knowledge required of those who earn an A.A.S. in Automotive Technology.

A.A.S. – Automotive Degree Requirements:
67 Credits

AUTOMOTIVE TECHNOLOGY DEGREE		
Semester ONE		**Credits**
MTH 121	College Algebra	4
ENG 105	Applied Technical Writing	3
CMP 101	Introduction to Computers	3
AUT 101	Introduction to Automotive Technology	3
AUT 103	Electrical and Electronic Systems	4
Semester TWO		
ENG 112	Technical Research and Writing	3
NAV 110	Foundations of Navajo Culture	3
PHY 111	Introduction to Physics	4
AUT 102	Brake Systems	4
AUT 104	Chassis, Suspension, and Steering	4
Semester THREE		
AUT 113	Tune-up and Engine Performance	4
AUT 114	Automatic Transmissions/Transaxle Overhaul	4
AUT 212	Heating/Air Conditioning Systems	3
AUT 215	Engine Repair	4
AUT 285	Practicum in Automotive Technology I	3
Semester FOUR		
COM 150	Interpersonal Communication	3
AUT 203	Advanced Electrical and Electronic Systems	4
AUT 213	Advanced Tune-up and Engine Performance	4
AUT 286	Practicum in Automotive Technology II	3
TOTAL REQUIRED CREDIT HOURS		**67**

BUILDING INFORMATION MODELING

The Building Information Modeling (BIM) and Computer-Aided Drafting (CAD) programs prepare students to pursue a drafting career. Students in the CAD program work with 2-D CAD, Microsoft Office Suite, and commercial and residential blueprint reading. Student completing the BIM degree program will have a broad range of 2-D and 3-D CAD, drafting skills and a solid, well-rounded educational foundation. Skills obtained at NTU give students the opportunity to apply in various internships with NASA, NASA affiliates and gain employment in various industries such as architectural or engineering firms. Students completing the BIM program will be given the opportunity to take the Autodesk Certified User exam to show competency in AutoCAD, Inventor (mechanical 3- D software) and Revit (architectural 3-D software). Students completing the CAD program only have the opportunity to take the Autodesk Certified User exam show competency in AutoCAD.

Building Information Modeling Requirements:
60 Credits

BUILDING INFORMATION MODELING DEGREE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
English/Communication:		**9**
	ENG 110	
	COM130 or COM 150	
	ENG 111	
Mathematics:		**4**
	MTH 121 or higher	
Dine Studies:		**3-4**
Natural or Physical Science:		**8**
Humanities/ Social Science:		**9**
Information Tech/Applied Computers:		**3**
	CMP 101 or higher	
BIM CORE COURSES		
Semester ONE		**Credits**
DFT 120	Computer-Aided Drafting I	3
ERS 106	Wind and Solar Power	3
Semester TWO		
DFT 220	Computer-Aided Drafting II	3
DFT 112	Architectural Drafting	3
Semester THREE		
DFT 240	Building Codes	3
DFT 212	Advance Architectural Drafting	3
Semester FOUR		
AMT 311	Laser Scanning Methods and Techniques	3
DFT 250	Construction Management/Estimation	3
TOTAL REQUIRED CREDIT HOURS		**60**

CHEMICAL ENGINEERING TECHNOLOGY

Chemical Engineering and Process Technologists and Technicians work on industrial processes designed to convert raw materials into petroleum products. Since the Four Corners region has significant oil and gas fields, there are a number of refineries and other oil and gas related operations throughout the area. Technologists run production units, help design operations, implement process controls and address corrosion concerns. They do these tasks both in the field and in large plants. They also research products and technologies as well as environmental and reclamation techniques. Environmental reclamation, given the number of abandoned mine sites on the Navajo Nation and in Arizona, Utah, and Colorado, provides jobs throughout Navajo Tech's service area.

A.A.S. – Degree Requirements: 64 Credits

CHEMICAL ENGINEERING TECHNOLOGY DEGREE		
Semester ONE		**Credits**
MTH 121	College Algebra	4
ENG 110	Freshman Composition	3
ENGR103	Introduction to Engineering	3
CHM120	General Chemistry I	4
CHEM 117	Introduction to Chemical Laboratory Equipment	1
Semester TWO		
CMP 101	Introduction to Computers	3
NAV 225	Dine Philosophy of Education	3
CHM122	General Chemistry II	4
CHEME115	Introduction to Process Industries	2
CHEME130	Introduction to Process Operations	2
Semester THREE		
DFT 120	Computer Aided Drafting I	3
COM 130	Public Speaking	3
MTH 213	Elementary Statistics	3
CHEME202	Industrial Chemistry and Lab	4
CHEME222	Fundamentals of Chemical Engineering	4
Semester FOUR		
MTH 150	Pre-Calculus	4
CHM 468	Organic Chemistry with Lab	4
CHEME223	Petroleum Refinery Engineering & Petrochemicals	3
CHEME224	Quality Control in Chemical Engineering	3
CHEME230	Practicum in Industry	4
TOTAL REQUIRED CREDIT HOURS		64

CULINARY ARTS

The A.A.S. Culinary Arts degree program is designed to provide graduates with the knowledge and skills necessary for employment in a number of food service industry settings. Students will obtain training in professional cooking and baking so they will understand the demands of product delivery. Students will also receive management training specific to a variety of demands in the industry such as food and beverage management, human resources management, and planning and management of both large and small scale catering and banquet events. Graduates will have gained a better understanding of their own interpersonal communication skills as they relate to both back-of-the-house and front-of-the-house communication demands.

A.A.S. - Culinary Arts Requirements: 63 Credits

GENERAL EDUCATION REQUIREMENTS		Credits
English/Communication:		**6**
	ENG 110	
	COM130 or COM 150	
Mathematics:		**4**
	MTH 121 or higher	
Dine Studies:		**3-4**
Natural or Physical Science:		**4**
Humanities/ Social Science:		**3**
Information Tech/Applied Computers:		**3**
	CMP 101 or higher	
CULINARY ARTS CORE REQUIREMENTS		
Semester ONE		**Credits**
CUL 103	Food Safety and Sanitation	3
CKG 101	Professional Cooking I	8
Semester TWO		**Credits**
CKG 111	Professional Cooking II	8
BKG 109	Professional Baking Basics	3
CKG 112	Professional Internship	3
Semester THREE		**Credits**
CUL 201	ServSafe Essentials	3
CUL 105	Nutrition	3
Semester FOUR		**Credits**
CUL 205	Food & Beverage Management	3
CUL 206	Banquets & Catering	3
CUL 207	Management and Supervision	3
TOTAL REQUIRED CREDIT HOURS		**63**

ENERGY SYSTEMS

The Energy Systems program teaches students the fundamentals of electricity, magnetism, photovoltaic electrical systems, and wind generation. This program emphasize techniques to harness the earth's renewable energy sources. Students study energy related applications, design, installation, and renewable energy, they learn residential and commercial wiring, programming controls and electrical motors. Students also learn to apply the National Electrical Code (NEC) for safe and reliable electrical installations. Solar street lighting, photovoltaic electrical systems, wind turbine fabrication and installation, and collection of wind resources will also be covered in addition to stand-alone, grid-tied, and net-metering systems. Students explore science, mathematics, technology, and engineering while they study the transformation of mechanical energy to electrical energy. Moreover, the design and construction of photovoltaic, wind, and solar systems will enable students to supplement existing energy needs at home, the communities, and throughout the Navajo Nation.

A.A.S. - Energy Systems Requirements: 64 Credits

GENERAL EDUCATION REQUIREMENTS		Credits
English/Communication:		6
	ENG 110	
	COM130 or COM 150	
Mathematics:		4
	MTH 121 or higher	
Dine Studies:		3-4
Natural or Physical Science:		4
Humanities/ Social Science:		3
Information Tech/Applied Computers:		3
	CMP 101 or higher	
ENERGY SYSTEMS CORE REQUIREMENTS		
Semester ONE		Credits
ELC 101	Electrical Theory I	4
ERS 104	Electrical Mathematics	3
Semester TWO		
ELC 111	Commercial Wiring	4
ERS 102	Photovoltaic Theory/Design	3
ENV 102	Environmental Science I	4
Semester THREE		
ELC 102	Electrical Theory Lab I	2
ERS 106	Wind and Solar Power	3
GIT 110	Geographic Information Systems I	3
Semester FOUR		
ERS 114	National Electrical Code Exam Prep	3
ERS 115	Systems Control	3
TOTAL REQUIRED CREDIT HOURS		64

ENVIRONMENTAL SCIENCE AND NATURAL RESOURCES

The Environmental Science and Natural Resources program emphasizes a thorough overview of environmental laws, hands-on experience, regulatory compliance, safety, and Native American perspectives on environmental and natural resource protection and management. The program is designed to meet the needs of tribal, state, and federal environmental and natural resource management entities, particularly those entities working in Native American communities. The program focuses upon preparing the student to address environmental redemption and restoration. It provides a general background to assist with natural resource management.

A.A.S. - Environmental Science and Natural Resource Requirements: 62 Credits

ENVIRONMENTAL SCIENCE & NATURAL RESOURCE		
GENERAL EDUCATION REQUIREMENTS		Credits
English/Communication:		6
	ENG 110	
	COM130 or COM 150	
Mathematics:		4
	MTH 121 or higher	
Dine Studies:		3-4
Natural or Physical Science:		8
	CHM120	
	BIO110	
Humanities/ Social Science:		6
Information Tech/Applied Computers:		3
	CMP 101 or higher	
ENV SCI & NAT RES CORE REQUIREMENTS		
Semester ONE		Credits
ENV 102	Environmental Science I	4
GIT 105	Fundamentals of Cartography	3
Semester TWO		
ENV 182	Environmental Science II	4
ENV 245	Natural Resources I	4
Semester THREE		
ENV 289	Natural Resources II	4
GIT 110	Geographic Information Systems I	3
Semester FOUR		
CHM 122	General Chemistry II	4
ENV 255	Introduction to Hydrology	3
GIT 111	Geographic Information Systems II	3
TOTAL REQUIRED CREDIT HOURS		62

GEOGRAPHIC INFORMATION TECHNOLOGY PROGRAM

The Geographic Information Technology (GIT) program will serve to introduce students to the fundamental principles of geographic information systems, remote sensing, database applications, cartography, and enable students to understand the current state of knowledge residing in a geographic information system. The GIT program seeks to ready students for positions with governmental agencies, engineering companies, and topographical drafting organizations. Through the knowledge they receive from this program, they will also be capable of finding employment in a GIT department.

GIT Degree Requirements: 60 Credits

GEOGRAPHIC INFORMATION DEGREE		
GEOGRAPHIC INFORMATION REQUIREMENTS		
Semester ONE		**Credits**
DFT 120	Computer Aided Drafting	3
ENG 110	Freshman Composition	3
NAV 101	Introduction to Navajo Language	3
GIT 105	Fundamentals of Cartography	3
GIT 110	Geographic Information Systems I	3
Semester TWO		
COM 130	Public Speaking	3
MTH 121	College Algebra	4
ENV 102	Environmental Science I	4
GIT 111	Geographic Information Systems II	3
ENGR103	Introduction to Engineering	3
Semester THREE		
HUM 160	Global Cinema	3
ENV 245	Natural Resources I	4
MTH 123	Trigonometry	4
GIT 202	Remote Sensing	3
GIT 210	Service Learning Project	1
Semester FOUR		
PHY 111	Algebra Based Physics	4
IT 335	Data Visualization	3
GIT 207	GIS Software Applications	3
GIT 220	Database Query	3
TOTAL REQUIRED CREDIT HOURS		**60**

INFORMATION TECHNOLOGY TECHNICIAN

This program is structured to prepare students for immediate and continuing employment opportunities in the broad disciplines of information technology and computer support. This includes positions such as helpdesk technician assistant, information system support, and data analyst assistant. The information technology program will involve and incorporate the Navajo Technical University Information Technology (IT) department real world projects and disciplines. This collaboration will offer students hands-on practical technology opportunity and allows the Navajo Technical University IT department support. Students who earn the Information

Information Technology Technician Requirements 63 Credits

INFORMATION TECHNOLOGY TECHNICIAN DEGREE		
INFORMATION TECHNOLOGY TECH REQUIREMENTS		
Semester ONE		**Credits**
ENG 110	Freshman Composition	3
MTH 121	College Algebra	4
IT 105	Introduction to Programming	3
IT 110	Introduction to Digital Logic/Hardware Programming	3
IT 115	Drawing/Visual Culture	3
Semester TWO		
HUM 170	History of Native Americans in Media	3
MTH 123	Trigonometry	4
IT 125	Introduction to Digital Video	3
IT 142	Web Design Concepts	3
IT 150	Introduction to System Administration	3
Semester THREE		
ENG 112	Technical Research and Writing	3
SCIXXX	Physical/Natural Science Course	4
IT 220	Database Design	3
IT 218	Algorithms & Data Structures	3
IT 222	Computer Security	3
Semester FOUR		
NAV 101	Introduction to Navajo Language	3-4
SSCXXX	Social Science Course	3
IT 252	Web Standards	3
IT 265	Internetworking	3
IT 280	IT Project Management	3
TOTAL REQUIRED CREDIT HOURS		**63**

LAW ADVOCATE

The Law Advocate degree program is intended to prepare students to successfully complete the requirements for admission to the Navajo Nation Bar Association and to work as legal advocates in the legal and judicial systems of the Navajo Nation. Classes will allow local community residents to receive training to acquire new job skills or enhance existing job skills. Classes are offered in criminal, civil, and family law; with an emphasis on court procedure and practical skills. Legal research, legal writing, and legal ethics will be stressed.

A.A.S. Degree in Law Advocate Requirements: 62 Credits

LAW ADVOCATE DEGREE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
English/Communication:		**9**
	ENG 110	
	COM130 or COM 150	
	ENG 111	
Mathematics:		**4**
	MTH 121 or higher	
Dine Studies:		**3-4**
Natural or Physical Science:		**4**
Humanities/ Social Science:		**9**
Information Tech/Applied Computers:		**3**
	CMP 101 or higher	
LAW ADVOCATE CORE REQUIREMENTS		
Semester ONE		**Credits**
LAW 105	Advanced Legal Research & Writing	3
LAW 106	American Indian Law	3
Semester TWO		
LAW 201	Consumer Law	3
LAW 203	Business Law	3
Summer Internship		
LAW 221	Law Advocate Internship	3
Semester THREE		
LAW 204	Advanced Business Law	3
LAW 211	Administrative Law	3
LAW 212	Trial Practice	3
Semester FOUR		
LAW 205	Professional Responsibility and Ethics	3
LAW 225	Navajo Nation Bar Review	3
TOTAL REQUIRED CREDIT HOURS		**62**

PROFESSIONAL BAKING
(Formally Commercial Baking)

The Professional Baking degree program provides students with advanced baking skills for the higher levels of commercial baking in a professional environment. Instruction focuses on a maximum hands-on experience as well as theory and safety. Students will be involved in all aspects of baking preparation including breads, sweet breads, assorted pastries, cakes and cake decorating. The program also includes advanced techniques such as working with spun sugar, chocolate, and design requirements for individual plates used in more formal setting such as banquets, caterings, and fine dining establishments.

A.A.S. – Professional Baking Requirements: 60 Credits

PROFESSIONAL BAKING DEGREE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
English/Communication:		**6**
	ENG 110	
	COM130 or COM 150	
Mathematics:		**4**
	MTH 121 or higher	
Dine Studies:		**3-4**
Natural or Physical Science:		**4**
Humanities/ Social Science:		**3**
Information Tech/Applied Computers:		**3**
	CMP 101 or higher	
PROFESSIONAL BAKING CORE REQUIREMENTS		
Semester ONE		**Credits**
CUL 103	Food Safety and Sanitation	3
BKG 101	Professional Cooking I	8
Semester TWO		
BKG 111	Professional Baking II	8
CKG 108	Professional Cooking Basics	3
BKG 112	Professional Baking Internship	3
Semester THREE		
CUL 201	ServSafe Essentials	3
Semester FOUR		
BKG 201	Art of Grand Finale	3
BKG 202	Advanced Cake Decoration	3
CUL 207	Management & Supervision	3
TOTAL REQUIRED CREDIT HOURS		**60**

PUBLIC ADMINISTRATION

The A.A.S. degree in Public Administration is awarded upon completion of a course in a cross-disciplinary program. Students will develop the skills and the intellectual discipline necessary to enter any Navajo Nation governmental office and provide worthwhile and creative administrative and managerial services. The course requirements for this program are comprised of courses offered among several existing certificate and degree programs.

A.A.S. Degree in Public Administration Requirements: 62-63 Credits

PUBLIC ADMINISTRATION DEGREE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
English/Communication:		**6**
	ENG 110	
	COM130 or COM 150	
Mathematics:		**4**
	MTH 121 or higher	
Dine Studies:		**3-4**
Natural or Physical Science:		**4**
Humanities/ Social Science:		**6**
Information Tech/Applied Computers:		**3**
	CMP 101 or higher	
PUBLIC ADMINISTRATION CORE REQUIREMENTS		
Semester ONE		**Credits**
ACG 101	Accounting Principles I	3
ADM 101	Keyboarding and Formatting I	3
PAD 101	Introduction to Public Administration	3
Semester TWO		
PAD 110	Public Finance Administration	3
ADM 115	Records Management	3
LAW 106	American Indian Law	3
Semester THREE		
PAD 210	Public Sector Management	3
LAW 203	Business Law	3
PAD 225	Human Behavior in Organization	3
Semester FOUR		
LAW 205	Professional Responsibility and Ethics	3
PAD 230	Internship/Practicum	3
PAD 295	Topics in Public Administration	3
TOTAL REQUIRED CREDIT HOURS		**62-63**

** Some of the Business and General Education courses have a prerequisite. Please check the course descriptions for the appropriate prerequisite course(s).

VETERINARY TECHNICIAN

The mission of the Veterinary Technology degree program is to provide students with the academic, professional "hands-on" knowledge, and skills required to master the American Veterinary Medical Association's Veterinary Technology Student Essential Skills which will prepare students as entry-level veterinary technicians, to successfully pass the VTNE (Veterinary Technician National Exam), and to perform as effective veterinary health care team members. Students will exhibit conduct that reflects practice standards that are professional, ethical, and legal. Graduates of this program will recognize career opportunities in traditional and non-traditional settings such as private veterinary practice, biomedical research, academia, food safety, government agencies, zoos, and other animal health-related fields.

The length of time necessary for completion of the program is a minimum of 7 semesters. A minimum of 69 credit hours must be earned in specific coursework including general education and core program courses. Students must meet with the Program Advisor before registering for classes each semester. Students must pass the VTNE in order to apply for state licensure.

- Students must complete all general education courses prior to admission into program core courses. Students must maintain at least an overall G.P.A. of 2.5 for all required General Education courses and must earn grades of "C" or higher in BIO 120, CHM 120, ENG 110 (or ENG 111 or 112), MTH 121 and VET 090.

- Students must pass VET 090 Introduction to Veterinary Technology course (1 cr hr) with a grade of "C" or higher which shall be completed while taking General Education courses.

- Students must complete all program courses with a grade of 75% or higher in order to progress into the following semester's courses. Students will be placed on probation only once if they score below 75% in one of their courses. The second time they score below 75% in another course, they will not proceed in the program with the cohort they started with and must repeat the course until they are available again. Final approval of the probation and to allow the students to continue into the following semester rests solely on the Veterinary Technology faculty.

Other requirements for admission into the Veterinary Technology Program can be found under Admission:

Veterinary Technician Requirement: 68 Credits

VETERINARY TECHNICIAN DEGREE		
REQUIREMENTS BEFORE ADMISSION		**Credits**
English/Communication:		**3**
	ENG 110 or ENG 111 or ENG 112	
Mathematics:		**4**
	MTH 121 or higher	
Dine Studies:		**3**
	NAV 101 or 102 or 201 or 202	
Natural or Physical Science:		**8**
	BIO120, CHM120	
Introduction to Veterinary Technology: VET090		**1**
VETERINARY TECH REQUIREMENTS		
Semester ONE		**Credits**
VET130	Veterinary Medical Terminology	1
VET131	Navajo Veterinary Medical Terminology	1
VET132	Veterinary Office Procedure	1
VET134	Veterinary Anatomy and Physiology I	6
VET136	Veterinary Nursing I	2
Semester TWO		
VET140	Veterinary Surgical Nursing	2
VET142	Veterinary Pharmacology for Technicians	2
VET144	Veterinary Clinical Laboratory Procedures I	3
VET146	Veterinary Nursing II	2
VET148	Animal Nutrition	2
VET150	Veterinary Dentistry	1
Semester THREE		
VET230	Veterinary Medicine and Surgery	3
VET232	Veterinary Anesthesiology	3
VET234	Veterinary Clinical Laboratory Procedures II	4
VET236	Veterinary Diagnostic Imaging I	2
Semester FOUR		
VET240	Veterinary Diagnostic Imaging II	2
VET242	Avian, Exotic, Lab Animal Husbandry & Handling	2
VET244	Veterinary Clinical Laboratory Procedures III	3
VET246	Veterinary Nursing II	2
VET248	Veterinary Critical Care	2
VET250	Veterinary Technician National Exam Review	1
Semester FIVE (Summer)		
VET260	Veterinary Technology Practicum I (12wks)	3
TOTAL REQUIRED CREDIT HOURS		**68**

ASSOCIATE OF ARTS

GENERAL STUDIES

The purpose of the Associate of Applied Science degree in General Education, also known as the Weekend College Program is to provide a flexible accelerated degree program format that allows adult learners to complete their degree by attending classes exclusively on the weekends. They offer practical introductions to the field of general education classes at the college level;

additionally students may transfer to a four-year college or University campus for the bachelorette degree. A minimum of sixty-two academic credits must be earned in specified coursework.

A.A. Degree in General Studies Requirements: 62 Credits

GENERAL STUDIES DEGREE		
Semester ONE		**Credits**
MTH 121	College Algebra	4
ENG 110	Freshman Composition	3
NAV 221	Navajo Government	3
NAV 225	Dine Philosophy of Education	3
CMP 101	Introduction to Digital Design	3
Semester TWO		
SOC 210	Sociology of Social Problems	3
ENG 150	English Literature	3
NAV 211	Navajo History	3
CHM 120	General Chemistry I	4
HST 210	American History to 1877	3
Semester THREE		
PED 101	Physical Education	1
SOC 101	Introductions to Sociology	3
ENG 112	Technical Research and Writing	3
PSY 105	Introduction to Psychology	3
ECN 111	Introduction to Economics	3
Semester FOUR		
HUM 201	Exploration of Different Cultures	3
ART 110	Art Studio I	3
COM 130	Public Speaking	3
BIO 120	Principles of Biology	4
ENV 245	Natural Resources I	4
TOTAL REQUIRED CREDIT HOURS		62

ASSOCIATE OF SCIENCE

EARLY CHILDHOOD MULTICULTURAL EDUCATION

The Early Childhood Multicultural Education program provides a transferable associate degree which meets the requirements for articulation with the state of New Mexico and across the Navajo Nation and is a New Mexico state approved program under the NM Department of Education. Upon completion of the core credit hours in the degree program, students may be issued a state certificate from the Children, Youth and Families Department. The state certificate will indicate completion of the required Early Childhood Multicultural Education vocational courses. Students graduating from this program will be able to work in the early childhood educational field and/or pursue various bachelor degrees in the field of Early Childhood education. The program is consistent with

the new core curriculum requirements for New Mexico, and incorporates cultural and linguistic standards required by the Navajo Nation. Courses in this program reflect Navajo family home values, beliefs, and experiences. The curriculum prepares students to demonstrate their skills and work effectively with children from birth to age 8 in a variety of settings.

An additional fee for the state-issued certificate required.

Students enrolled in this program must also:

- Submit a Teacher Education Program application to the Department of Public Education as required for Elementary Teaching (K-3).
- Maintain a 2.5 cumulative GPA while in the program

A.S. - ECME Degree Requirements: 70 Credits

EARLY CHILDHOOD MULTICULTURAL EDUCATION		
GENERAL EDUCATION REQUIREMENTS		**Credits**
English/Communication:		**9**
	ENG 105 or ENG 110	
	COM130 or COM 150	
	ENG 111 or ENG 112	
Mathematics:		**4**
	MTH 121 or higher	
Dine Studies:		**3-6**
Natural or Physical Science:		**8**
Social/ Behavioral Science:		**6**
Humanities/ Fine Arts: (History Req)		**9**
Information Tech/Applied Computers:		**3**
	CMP 101 or higher	
ECME CORE REQUIREMENTS		
Semester ONE		**Credits**
ECM 110	Child Growth, Development, and Learning	3
ECM 112	Health, Safety, and Nutrition	3
ECM 116	Family and Community Collaboration	3
Semester TWO		
ECM 125	Introduction to Literacy and Reading Development	3
ECM 210	Guiding Young Children	3
ECM 245	Professionalism	2
Semester THREE		
ECM 220	Curriculum Development and Implementation I	3
ECM 220A	Practicum	2
Semester FOUR		
ECM 225	Curriculum Development and Implementation II	3
ECM 225A	Practicum II	2
ECM 235	Assessment of Children and Evaluation of Programs	3
TOTAL REQUIRED CREDIT HOURS		**70**

NOTE: The Early Childhood Multicultural Education program has specific general education courses that students are encouraged to take so students should check with their advisor in order to choose the preferred courses from the general education electives.

GENERAL EDUCATION REQUIREMENT (MINIMUM CREDITS REQUIRED IN EACH CATEGORY):

Communication: 9 credits
COM 130   Public Speaking (3 credits)
ENG 110   English Composition I (3 credits)
ENG 111   English Composition II (3 credits)

Mathematics: 3 credits (minimum)
MTH 121   College Algebra (4 credits)
MTH 123   Trigonometry (4 credits)
MTH 213   Elementary Statistics (3 credits)

Laboratory Sciences: 8 credits (minimum)
BIO 120   Principles of Biology I with Lab (4 credits)
BIO 122   Principles of Biology II with Lab (4 crs)
ENV 102   Environmental Science I with Lab (4 crs)
ENV 182   Environmental Science II with Lab (4)
GEO 101   Principles of Geology with Lab (4 credits)
GEO 150   Environmental Geology with Lab (4 crs)

Dine' Studies: 6 credits
NAV 101   Navajo Language (4 credits)
NAV 110 OR Foundations of Navajo Culture (3 crs)
NAV 195   Diné Philosophy of Education (3 crs)

Social/Behavioral Sciences: 6 credits
PSY 105   Introduction to Psychology (3 credits)
PSY 210   Developmental Psychology (3 credits)
PSY 195/295 Topics in Psychology (1 – 3 credits)
SOC 101   Introduction to Sociology (3 credits)
SOC 210   Sociology of Social Problems (3 crs)
SOC 195/295 Topics in Sociology (1 – 3 credits)

Humanities and Fine Arts: 9 credits (at least 3 credits in History required)
NAV 211   Navajo History (3 credits)
HST 210   American History to 1877 (3 credits)
HST 211   American History 1877 to Present (3 cr)
HST 220   History of the American SW (3 crs)
HST195/295 Topics in History (1 – 3 credits)
ART 110   Art Studio I (3 credits)
ART195/295 Topics in Art (1 – 3 credits)
ENG 150   Introduction to Literature (3 credits)

MATHEMATICS

Mathematics is a program that focuses on the analysis of quantities, magnitudes, forms, and their relationships, using symbolic logic and language. It includes instruction in algebra, calculus, functional analysis, geometry, number theory, logic, topology and other mathematical specializations. Mathematics is a versatile program that can be applied to almost any career. A student with a degree in mathematics will have an endless opportunity. A student who studies mathematics will have the ability to think analytically, solve problems, and communicate precisely. Graduates of this program should be able to seek gainful employment as a teacher, mathematician, statistician, financial analyst, consultant, engineer, physician, lawyer, and research analyst

A.S. – Degree Requirements: 62 Credits

MATHEMATICS DEGREE		
Semester ONE		**Credits**
MTH 121	College Algebra	4
MTH 150	Pre-Calculus	4
ENG 110	Freshman Composition	3
ENGR103	Introduction to Engineering	3
CMP 101	Introduction to Computers	3
Summer Session		
MTH123	Trigonometry	4
Semester TWO		
MTH 162	Calculus I	4
MTH 213	Elementary Statistics	3
PHY 111	Algebra Based Physics I	4
NAVXXX	Navajo Studies	3
Semester THREE		
MTH 163	Calculus II	4
MTH 306	College Geometry	3
SOC 101	Introductions to Sociology	3
PSY 105	Introduction to Psychology	3
Semester FOUR		
MTH 310	Differential Equation	4
COM 130	Public Speaking	3
MTH 264	Calculus III	4
MTH 410	Linear Algebra	3
TOTAL REQUIRED CREDIT HOURS		62

CERTIFICATE PROGRAMS

ADMINISTRATIVE OFFICE SPECIALIST

The certificate provides graduates with the knowledge and skills needed for entry level positions in today's offices. Students upon completion of the certificate program have the option of continuing for an AAS degree in Administrative Office Specialist.

Certificate – Administrative Office Specialist Requirements: 33 Credits

ADMINISTRATIVE OFFICE SPECIALIST CERTIFICATE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
ENG 105	Applied Technical Writing	3
MTH 113	Technical Mathematics II	3
NAVXXX	Dine Studies Course	3
CMP101	Introduction to Computers	3
ADMINISTRATIVE OFFICE SPECIALIST CORE COURSES		
Semester ONE		**Credits**
ADM 101	Keyboarding & Formatting I	3
ADM 113	Office Procedures	3
ADM 115	Records Management	3
SSC 100	College Success Skills	3
Semester TWO		
ADM 111	Keyboarding & Formatting II	3
ADM 114	Business Mathematics & Calculators	3
LAW 101	Introduction to Law	3
TOTAL REQUIRED CREDIT HOURS		**33**

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

APPLIED COMPUTER TECHNOLOGY

An Applied Computer Technology background enables students to work with information systems and solve management problems using computer hardware and software. Graduates will have a sound background in fundamental computer skills using a wide variety of computer equipment. Students will have time to explore the various communications and connections between microcomputers and software while they develop application skills emphasizing problem solving techniques and the consultant-client relationship. Client/server systems will be used to teach software application usage and operating system comprehension. Occupational areas include data entry, operations, customer support, client/server services, and presentational skills.

Applied Computer Technology Certificate Requirements 36 Credits

APPLIED COMPUTER TECHNOLOGY CERTIFICATE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
ENG 105	Applied Technical Writing	3
MTH 113	Technical Mathematics II	3
NAVXXX	Dine Studies Course	3
CMP101	Introduction to Computers	3
APPLIED COMPUTER TECHNOLOGY CORE COURSES		
Semester TWO		
ADM 113	Office Procedures	3
CMP 101	Introduction to Computers	3
CMP 117	Operating Systems	3
ITS 107	Internet Research	3
Semester THREE		
ADM 210	MS PowerPoint Presentation Skills	3
CMP 110	Desktop Publishing	3
CMP 115	Database Management Concepts	3
ITS 120	Microsoft Office Suite	3
TOTAL REQUIRED CREDIT HOURS		**36**

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

AUTOMOTIVE TECHNOLOGY

The Automotive Technology program is designed to prepare individuals for jobs in maintenance and mechanical repair of cars and light trucks. The occupational competencies are aligned with National Automotive Technical Foundation (NATEF) and Automotive Service Excellence (ASE) standards. Post-secondary automotive technology programs are expected to teach eight competency areas: 1)proper tool care and safe work environment, 2) preparing service work orders, 3)repairing electrical/electronic systems, 4)repairing steering and suspension systems, 5)engine performance diagnostics and repair, 6)brake systems, 7)manual drive train and axles, and 8)heating and air-conditioning systems. Students must demonstrate satisfactory competence in each of the eight areas of focus in order to receive their Automotive Technology Certificate. A mechanical aptitude test will be administered to students before admission into the program.

Automotive Technology Requirements: 31 Credits

AUTOMOTIVE TECHNOLOGY CERTIFICATE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
ENG 105	Applied Technical Writing	3
MTH 113	Technical Mathematics II	3
NAVXXX	Dine Studies Course	3
CMP101	Introduction to Computers	3
AUTOMOTIVE TECHNOLOGY CORE COURSES		
Semester ONE		**Credits**
AUT 101	Introduction to Automotive Technology	3
Semester TWO		
AUT 102	Brake Systems	4
AUT 103	Electrical and Electronic Systems	4
AUT 104	Chassis, Suspension, and Steering	4
AUT 113	Tune-up and Engine Performance	4
TOTAL REQUIRED CREDIT HOURS		**31**

BOOKKEEPING

The Accounting Program offers the Certificate in Bookkeeping. A Bookkeeping Certificate, will enable students to find suitable entry-level employment as a bookkeeper in general office employment. Students have the option of continuing to earn an AAS degree in Accounting.

Certificate in Bookkeeping Requirements: 33 credits

BOOKKEEPING CERTIFICATE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
ENG 105	Applied Technical Writing	3
MTH 113	Technical Mathematics II	3
NAVXXX	Dine Studies Course	3
CMP101	Introduction to Computers	3
BOOKKEEPING CORE COURSES		
Semester ONE		**Credits**
ACG 101	Accounting Principles I	3
ACG 114	Spreadsheet Accounting I	3
ADM 114	Business Mathematics and Calculators	3
ECN 111	Introduction to Economics	3
Semester TWO		
ACG 111	Accounting Principles II	3
ACG 112	Income Tax I	3
ACG 113	Accounting Applications	3
TOTAL REQUIRED CREDIT HOURS		**33**

**Certificate students are advised to take CMP-101 in their first semester. Subsequent courses especially in general education will rely on the use of computer technology and/or will require computer-generated assignments.

CARPENTRY

The Carpentry program provides students with job-ready skills for entrance into the residential construction industry. Classes meet each day in indoor or outdoor labs specifically designed for residential construction projects. During the first semester, safety rules, wood identification, technical terminology, proper use of tools, carpentry mathematics, blueprint reading, and residential framing fundamentals are taught. The second semester covers exterior finish, interior finish, drywall, stair building, carpentry mathematics, blueprint reading, and some cabinet making. Each semester students will be required to use skills and techniques learned in the classroom in field projects related to residential construction. These projects will vary each semester based on availability.

Certificate in Carpentry Requirements: 35 Credits

CARPENTRY CERTIFICATE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
ENG 105	Applied Technical Writing	3
MTH 113	Technical Mathematics II	3
NAVXXX	Dine Studies Course	3
CMP101	Introduction to Computers	3
CARPENTRY CORE COURSES		
Semester ONE		**Credits**
CT 100	Residential Construction and Carpentry	3
CT 102	Introduction to Technical Drawing	2
CT 103	Introduction Craft Skills	3
CT 111	Woodworking with Lab	3
CT 112	Field Project I	3
Semester TWO		
CT 110	Advanced Residential Construction and Carpentry	3
CT 113	Cabinet Making	3
CT 114	Field Project II	3
TOTAL REQUIRED CREDIT HOURS		**35**

COMPUTER AIDED DRAFTING

The Computer-Aided Drafting (CAD) program prepare students to pursue a drafting career. Students in the CAD program work with 2-D CAD, Microsoft Office Suite, and commercial and residential blueprint reading. Student completing the BIM degree program will have a broad range of 2-D and 3-D CAD, drafting skills and a solid, well-rounded educational foundation. Skills obtained at NTU give students the opportunity to apply in various internships with NASA, NASA affiliates and gain employment in various industries such as architectural or engineering firms. Students completing the BIM program will be given the opportunity to take the Autodesk Certified User exam to show competency in AutoCAD, Inventor (mechanical 3- D software) and Revit (architectural 3-D software). Students completing the CAD program only have the opportunity to take the Autodesk Certified User exam show competency in AutoCAD.

CAD Certificate Requirements: 31 Credits

COMPUTER AIDED DRAFTING CERTIFICATE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
ENG 105	Applied Technical Writing	3
MTH 113	Technical Mathematics II	3
NAVXXX	Dine Studies Course	3
CMP101	Introduction to Computers	3
COMPUTER AIDED DRAFTING CORE COURSES		
Semester ONE		**Credits**
DFT 120	Computer-Aided Drafting I	3
CTR 115	Introduction to Blueprint Reading	2
ELECXXX	Trades Elective (CRPT, ELEC, CTR)	3
Semester TWO		
DFT 101	Technical Drafting	3
DFT 220	Computer-Aided Drafting II	2
ITS 120	Microsoft Office Suite	3
ELECXXX	Business Elective (AOS., ACCT)	3
TOTAL REQUIRED CREDIT HOURS		**31**

COMPUTER SCIENCE

The Certificate Program in Computer Science requires 31 credit hours and is designed for a one-year program of study. The program is designed to prepare students for entry level job on Navajo Nation and students may continue to obtain and an associate degree or a baccalaureate degree.

- General Education Requirements - 13 Credits
- Core Computer Science Courses - 18 Credits

COMPUTER SCIENCE CERTIFICATE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
ENG 110	Freshman Composition	3
MTH 121	College Algebra	4
NAVXXX	Navajo Studies	3
CMP101	Introduction to Computers	3
COMPUTER SCIENCE CORE COURSES		
Semester ONE		**Credits**
ENGR103	Introduction to Engineering	3
CS 101	Programming I	3
CS 120	Computational Thinking	3
Semester TWO		
CS 150	Introduction to Programming II	3
CS 175	Introduction to Computer Organization	3
CS 125	Scripting	3
TOTAL REQUIRED CREDIT HOURS		**31**

CONSTRUCTION TECHNOLOGY

The Construction Technology program is designed to prepare students for careers in the construction industry. The occupational competencies are aligned with the National Center for Construction Education and Research standards. Construction technology includes units of instruction in electrical, plumbing, carpentry, construction math, plans, specifications, and building codes, facilities maintenance, computer-aided drafting, and welding technology. In addition to obtaining technical skills, students completing the program will have also developed competence in advanced critical thinking, career development, applied academics, and leadership skills required for construction technology occupations. The program uses a delivery system made up of four integral parts: Formal/technical instruction, experiential learning, supervised occupational experience, and the career technical student organization, Skills USA. For their own safety, students are expected to wear protective clothing and steel-toed shoes when attending classes.

Certificate in CT Requirements - 36 Credits

CONSTRUCTION TECHNOLOGY CERTIFICATE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
ENG 105	Applied Technical Writing	3
MTH 113	Technical Mathematics II	3
NAVXXX	Dine Studies Course	3
CMP101	Introduction to Computers	3
CONSTRUCTION TECHNOLOGY CORE COURSES		
Semester ONE		**Credits**
CT 100	Residential Construction and Carpentry	3
CT 102	Introduction to Technical Drafting	2
CT 103	Introductory Craft Skills	3
CT 104	Concrete and Masonry construction	3
WLD101	Fundamentals of Welding	3
Semester TWO		
CT 108	Residential Plumbing	2
CT 109	Residential Electric	2
CT 110	Advanced Residential Construction and Carpentry	3
WLD130	Introduction to GMAW MIG/FCAW	3
TOTAL REQUIRED CREDIT HOURS		**36**

COUNSELING

The Certificate Program in Counseling requires **33** credit hours and is designed for a one-year program of study. The program is designed to prepare students for entry level job on Navajo behavioral health facilities and students may continue to obtain and an associate degree or a baccalaureate degree. Graduates from this program will work on the Navajo Nation behavioral health facilities and eight graduates will be needed per year.

Counseling Requirements: 33 Credits

COUNSELING CERTIFICATE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
ENG 110	Freshman Composition	3
MTH113	Technical Mathematics II	3
NAV211	Navajo History	3
CMP101	Introduction to Computers	3
COUNSELING CORE COURSES		
Semester ONE		**Credits**
PSY105	Introductory Psychology	3
COU101	Introduction to Counseling Theories	3
Semester TWO		
PSY210	Developmental Psychology	3
COM150	Interpersonal Communication	3
COU103	Personality Psychology	3
COU106	Counseling Substance Abuse in Schools & Communities	3
COU110	Internship	3
TOTAL REQUIRED CREDIT HOURS		**33**

CULINARY ARTS
(Formally Professional Cooking)

The Culinary Arts program provides students with the basic knowledge needed for entry into the professional food industry. Instruction focuses on a maximum hands-on experience, as well as theory and safety. Students will be involved in all aspects of meal preparation for the staff, students, and community.

Certificate – Culinary Arts Requirements: 44 Credits

CULINARY ARTS CERTIFICATE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
ENG 105	Applied Technical Writing	3
MTH 113	Technical Mathematics II	3
NAVXXX	Dine Studies Course	3
CMP101	Introduction to Computers	3
CULINARY ARTS CORE COURSES		

Semester ONE		**Credits**
CUL 103	Food Safety and Sanitation	3
CKG 101	Professional Cooking I	8
CUL 201	Serv-Safe	3
CUL 105	Nutrition	3
Semester TWO		
CKG 111	Professional Cooking II	8
BKG 109	Professional Baking Basics	3
CKG 112	Professional Internship	3
CUL 207	Management & Supervision	3
TOTAL REQUIRED CREDIT HOURS		**44**

ELECTRICAL TRADES PROGRAM

The Electrical Trades program enables students to develop marketable skills and gain the knowledge needed to excel at various jobs in the electrical industry such as electrician, apprentice lineman, maintenance electrician, and electrical sales.

The electrical trade's classes meet each day in indoor or outdoor labs specifically designed for practical work experience within the trade. Safety rules, basic electricity, low voltage systems, ground fault circuit interceptors, correct and safe use of tools and equipment, design and installation of various circuits, use of the National Electrical Codes, and the study and practice of safe, efficient, and well-designed electrical systems for residential, commercial, and industrial facilities are the general topics covered in the program.

Students planning to pursue a Journeyman Electrician Certificate through the New Mexico Regulation and Licensing Department will gain one year of work experience from their electrical theory and lab experience at NTU. In order to improve their chances for acceptance into apprenticeship programs, students are strongly encouraged to take higher level math courses such as MTH 115 and/or MTH 120.

Certificate - ELC Requirements: 37 Credits

ELECTRICAL TRADES CERTIFICATE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
ENG 105	Applied Technical Writing	3
MTH 113	Technical Mathematics II	3
NAVXXX	Dine Studies Course	3
CMP101	Introduction to Computers	3
ELECTRICAL TRADES CORE COURSES		
Semester ONE		**Credits**
CT 103	Introduction to Craft Skills	3
Semester TWO		**Credits**

ELC 101	Electrical Level I	4
ELC 102	Electrical Trades Lab I	2
ERS 104	Electrical Mathematics	3
ELC 113	Residential/Commercial Blueprint Reading	4
Semester THREE		
ELC 111	Commercial Wiring	4
ELC 112	Electrical Trades Lab II	2
ERS 114	National Electrical Code Exam Prep	3
TOTAL REQUIRED CREDIT HOURS		**37**

ENVIRONMENTAL SCIENCE AND NATURAL RESOURCES

The Environmental Science and Natural Resources certificate program emphasizes a thorough overview of environmental laws, regulatory compliance and safety through Native American perspectives on environmental and natural resource protection and management. The certificate program is designed to provide students with the education and training to obtain entry-level positions as environmental or natural resources technicians. Additional training and education lead to an A.A.S. degree; this portion of the training deals with skills in assisting with managing projects and interpreting data, with emphasis on Native American training needs.

Certificate - Environmental Science and Natural Resources Requirements: 31 Credits

ENVIRONMENTAL SCIENCE & NATURAL RESOURCE CERTIFICATE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
ENG 105	Applied Technical Writing	3
MTH 113	Technical Mathematics II	3
NAVXXX	Dine Studies Course	3
CMP101	Introduction to Computers	3
ENVIRONMENTAL SCIENCE CORE COURSES		
Semester ONE		**Credits**
ENV 102	Environmental Science I	4
GIT 105	Fundamentals of Cartography	3
CHM 110	Elements of Chemistry	4
Semester TWO		
ENV 182	Environmental Science II	4
BIO 110	Elements of Biology	4
TOTAL REQUIRED CREDIT HOURS		**31**

*** Some General Education and ENV courses have a prerequisite. Please check course descriptions for the appropriate prerequisite course(s).*

GEOGRAPHIC INFORMATION TECHNOLOGY

The Geographic Information Technology (GIT) program will serve to introduce students to the fundamental principles of geographic information systems, remote sensing, database applications, cartography, and enable students to understand the current state of knowledge residing in a geographic information system. The GIT program seeks to ready students for positions with governmental agencies, engineering companies, and topographical drafting organizations. Through the knowledge they receive from this program, they will also be capable of finding employment in a GIT department.

GIT Certificate Requirements: 35 Credits

GEOGRAPHIC INFORMATION TECHNOLOGY CERT		
GENERAL EDUCATION REQUIREMENTS		**Credits**
ENG 110	Freshman Composition	3
MTH 113	Technical Mathematics II	3
NAV 101	Introduction to Navajo Language	3
IT 103	Creativity and Technology	3
GEOGRAPHIC INFORMATION CORE COURSES		
Semester ONE		**Credits**
DFT 120	Computer Aided Drafting I	3
GIT 105	Fundamentals of Cartography	3
GIT 110	Geographic Information Systems I	3
Semester TWO		
SSC 100	College Success Skills	3
ENGR103	Introduction to Engineering	3
ENV 102	Environmental I	4
GIT 111	Geographic Information Systems II	3
GIT 210	Service Learning Project	1
TOTAL REQUIRED CREDIT HOURS		**35**

INDUSTRIAL MAINTENANCE AND OPERATIONS

Navajo Technical University offers a certificate in Industrial Maintenance and Operations. An industrial maintenance mechanic is a person trained to repair and maintain commercial or industrial machinery in buildings, plants or factories. This program focuses on vibration analysis, electrical troubleshooting, drive system repair and hydraulic, pneumatic system troubleshooting and repair. They also troubleshoot and repair heating, ventilation, and air conditioning (HVAC) systems, electrical control systems and complete preventive maintenance of other types of machinery. The program is designed to serve the needs of the community, state, and federal agencies and companies in order to meet the challenges of the 21st century. Upon completion of the program, the students may decide to

work, or if they want to further their education, they can transfer their credits to any college of their choice. Graduates of this program should be able to seek gainful employment in companies such as paper mills, saw mills, and the utilities companies.

Certificate – Industrial Maintenance and Operations Requirements: 30 Credits

INDUSTRIAL MAINTENANCE & OPERATIONS CERT		
GENERAL EDUCATION REQUIREMENTS		**Credits**
ENG 105	Applied Technical Writing	3
MTH 115	Technical Mathematics II	3
NAVXXX	Dine Studies Course	3
CMP101	Introduction to Computers	3
INDUSTRIAL MAINTENANCE CORE COURSES		
Semester ONE		**Credits**
ENGR103	Introduction to Engineering	3
IMO 101	Industrial Maintenance I	5
Semester TWO		
CHEME	Introduction to Process Operations	2
IMO 102	Industrial Maintenance II	5
WLD 101	Welding Fundamentals	3
TOTAL REQUIRED CREDIT HOURS		**30**

INFORMATION TECHNOLOGY ASSISTANT

The IT certificate is designed to ensure a thorough knowledge of information systems and includes general practice using contemporary technologies in troubleshooting, problem solving, organization, customer support, analysis, evaluation, communication, and transmission of information. The certificate fosters communication skills through interpersonal and group interaction, opportunities through appropriate collaborative and active learning projects and experiences. Students who successfully complete the certificate program may continue in the program to complete requirements for an associate degree as an Information Technology Technician.

Information Technology Assistant Requirements 31 Credits

INFORMATION TECHNOLOGY ASSISTANT CERTIFICATE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
ENG 110	Freshman Composition	3
MTH118/120	Pre-Algebra/Intermediate Algebra	4-5
NAV XXX	Dine Studies Course	3
CMP 101	Introduction to Computers	3
INFORMATION TECHNOLOGY ASSISTANT CORE COURSES		
Semester TWO		
IT 105	Introduction to Programming	3
IT 110	Introduction to Digital Logic/Hardware Programming	3

IT 150	Introduction to System Administration	3
Semester THREE		
IT 218	Algorithms and Data Structure	3
IT 280	IT Project Management	3
IT 260	Internetworking	3
TOTAL REQUIRED CREDIT HOURS		**31**

LEGAL ASSISTANT

The Legal Assistant Certificate is intended to provide students with office skills and specialized legal knowledge and training in order to work as legal assistants under the supervision of attorneys and law advocates in the tribal, state, and federal legal and judicial systems. The Legal Assistant Certificate program combines courses from the Administrative Office Specialist program, the Information Technology program, and the Law Advocate program, giving the student knowledge and skills in a variety of areas.

No less than 50% of all course work required for the Law Programs must be completed at NTU.

Certificate - Legal Assistant Requirements: 36 Credits

LEGAL ASSISTANT CERTIFICATE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
ENG 105	Applied Technical Writing	3
MTH 113	Technical Mathematics II	3
NAVXXX	Dine Studies Course	3
CMP101	Introduction to Computers	3
LEGAL ASSISTANT CORE COURSES		
Semester ONE		**Credits**
ADM 101	Keyboarding and Formatting I	3
LAW 101	Introduction to Law	3
LAW 103	Criminal Law	3
LAW 104	Legal Research & Writing	3
Semester TWO		
ITS 120	Microsoft Office Suite	3
LAW 112	Evidence	3
LAW 113	Domestic Relations and Family Law	3
LAW 202	Procedure in Criminal and Civil Cases	3
TOTAL REQUIRED CREDIT HOURS		**36**

MATHEMATICS

Mathematics is a program that focuses on the analysis of quantities, magnitudes, forms, and their relationships, using symbolic logic and language. It includes instruction in algebra, calculus, functional analysis, geometry, number theory, logic, topology and other mathematical specializations. Mathematics is a versatile program that can be applied to almost any career. A student with a degree in mathematics will have an endless opportunity. A student who studies mathematics will have the ability to think analytically, solve problems, and communicate precisely. Graduates of this program should be able to seek gainful employment as a teacher, mathematician, statistician, financial analyst, consultant, engineer, physician, lawyer, and research analyst.

Certificate Requirements: 35 Credits

MATHEMATICS CERTIFICATE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
ENG 110	Freshman Composition	3
MTH 121	College Algebra	4
NAVXXX	Dine Studies Course	3
CMP101	Introduction to Computers	3
MATHEMATICS CORE COURSES		
Semester ONE		**Credits**
ENGR103	Introduction to Engineering	3
MTH150	Pre-Calculus	4
MTH 123	Trigonometry	4
Semester TWO		
MTH 162	Calculus I	4
MTH 213	Elementary Statistics	3
PHY 111	Algebra Based Physics I	4
TOTAL REQUIRED CREDIT HOURS		**35**

PRE-ENGINEERING

The program is designed to prepare students for entry into one of Navajo Technical University's (NTU) engineering or technology programs. All of the credits earned as part of the certificate program apply fully to first year requirements in Electrical Engineering, Industrial Engineering, and Digital Manufacturing.
- General Education Requirements - 14 Credits *(The minimum is 10 for a certificate.)*
- Core Pre-Engineering Courses - 19 Credits

Certificate Requirements: 33 Credit Hours

PRE-ENGINEERING CERTIFICATE		
PRE-ENGINEERING REQUIREMENTS		
Semester ONE		**Credits**
ENG 110	Applied Technical Writing	3

MTH 118	Pre-Algebra	5
ENGR103	Introduction to Engineering	3
ENGR123	Computer Skills for Engineering	3
ENGR130	Engineering Graphics & Solid Modeling	3
Semester TWO		
NAV211	Navajo History	3
MTH121	College Algebra	4
IT105	Introduction to Programming	3
ENGR169	Basic Probability and Statistics	3
ENGR143	Characteristics of Engineering Materials	3
TOTAL REQUIRED CREDIT HOURS		**33**

PRE-NURSING

The Pre- Nursing program is for students who are interested in pursuing an associate degree in registered nursing as well as those who are seeking employment in the health care field as a nurse assistant. Through this certificate program, students will learn the specific skill sets and obtain the specific courses that are the foundation of associate degree courses in the health profession. Since associate degree programs in nursing require students to have the skills learned in nurse assisting courses, inclusion of the nurse assisting courses serve to meet this requirement while also preparing students for immediate employment as a nurse assistant. Upon successful completion of this program, students are awarded a Pre-Nursing Certificate and are eligible to take the New Mexico Nurse Assisting Certification (CNA) exam.

Students are required to have or obtain current CPR training on their own prior to beginning their internship. The appropriate level of CPR training required will be explained by the nursing instructor. In addition, students are also required to have a physical exam and current tuberculosis test (PPD) to be admitted into clinical internship placement. Students that are currently in the Pre-professional nursing will continue with the requirements of the catalog year they started with.

Certificate in Pre- Nursing Requirements:
31-32 Credits

PRE NURSING CERTIFICATE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
ENG 110	Freshman Composition	3
MTH 113	Technical Mathematics II	3
NAVXXX	Dine Studies Course	3
CMP101	Introduction to Computers	3
PRE NURSING CORE COURSES		
Semester ONE		**Credits**
NRS 103	Basic Medical Terminology	3
NRS 110	Body Structure and Functions	4

Semester TWO		
NRS 101	Nursing Assistant Theory & Lab	5
NRS 102	Nursing Assistant Internship	1
PSY 105	Introduction to Psychology	3
ELECXXX	Elective:	3-4
TOTAL REQUIRED CREDIT HOURS		**31-32**

RECOMMENDED ELECTIVE COURSE LISTING		Credits
NAV 211	Navajo History	3
ENG 111	Composition and Research	3
BIO 130	Human Anatomy and Physiology I	4
BIO 131	Human Anatomy and Physiology II	4
CHM 110	Elements of Chemistry	4
PSY 210	Developmental Psychology	3
COM 130	Speech Communication	3
COM 150	Interpersonal Communication	3
NRS 115	Technical Math for Health Profession	3
SOC 101	Introduction to Sociology	3

PROFESSIONAL BAKING

The Professional Baking program provides students with the basic skills for the entry levels of commercial baking in a professional environment. Instruction focuses on a maximum hands-on experience as well as theory and safety. Students will be involved in all aspects of baking preparation including breads, sweet breads, assorted pastries, cakes and cake decorating.

Certificate - Professional Baking Requirements: 44 Credits

PROFESSIONAL BAKING CERTIFICATE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
ENG 105	Applied Technical Writing	3
MTH 113	Technical Mathematics II	3
NAVXXX	Dine Studies Course	3
CMP101	Introduction to Computers	3
PROFESSIONAL BAKING CORE COURSES		
Semester ONE		**Credits**
CUL 103	Food Safety and Sanitation	3
BKG 101	Professional Baking I	8
CUL 105	Nutrition	3
Semester TWO		
BKG 111	Professional Baking II	8
CKG 108	Professional Cooking Basics	3
CUL 207	Management & Supervision	3
BKG 201	Grand Finale	4
TOTAL REQUIRED CREDIT HOURS		**44**

TEXTILE AND WEAVING

The students will be taught how to weave Navajo rugs and also understand the oral tradition and history of Navajo weaving. A certificate course in Textile and Weaving at Navajo Technical University requires 31 credit hours and it is designed for a one-year program of study.   Job opportunities in Textile and Weaving include: instructor position, self- employment, textile manager, and fabric designer.

Certificate - Textile and Weaving Requirements: 31

GENERAL EDUCATION REQUIREMENTS		Credits
ENG 110	Freshman Composition	3
MTH 115	Introductory Algebra	3
NAV225	Dine Philosophy of Education	3
CMP101	Introduction to Computers	3
TEXTILE AND WEAVING CORE REQUIREMENTS		
Semester ONE		**Credits**
NAV 103	Introduction to Weaving	3
NAV 105	Navajo Cultural Arts	3
CHM 120	General Chemistry I	4
NAV 211	Navajo History	3
Semester TWO		
NAV 115	Intermediate Navajo Weaving	3
NAV 120	Advanced Navajo Weaving	3
TOTAL REQUIRED CREDIT HOURS		**31**

WELDING TECHNOLOGY

The Welding Technology Program prepares students for work in the field Welding Technology. In addition to gaining an overall understanding of welding machines, weld processes, and hands-on welding proficiency, students develop skills in the areas of blueprint reading, welding symbols, weld inspection, destructive and non-destructive testing, metallurgy, computer-aided drafting along with precisions machine tool operations.   Students gain knowledge and skills necessary to prepare them for weld qualification to code specifications.

The Certificate in Welding Technology stresses the practical applications of welding on plate pipe in all positions and the necessary theory to support those skill levels. Welding skills are developed with supported courses. A student must earn a grade of C or higher in all courses required for the program in order to receive a certificate.

Certificate Requirements: Welding Technology
32 Credit Hours

WELDING CERTIFICATE		
GENERAL EDUCATION REQUIREMENTS		**Credits**
ENG 105	Applied Technical Writing	3
MTH 113	Technical Mathematics II	3
NAV225	Diné Philosophy of Education	3
CMP101	Introduction to Computers	3
WELDING CORE COURSES		
Semester ONE		**Credits**
WLD101	Welding Fundamentals	3
WLD105	Pipe Welding I/Structural Welding I	4
Semester TWO		
WLD120	Basic Metallurgy	3
WLD125	Introduction to Pipe Welding	3
WLD130	Introduction to GMAW MIG/FCAW	3
WLD150	Pipe Welding I/Structural Welding II	4
TOTAL REQUIRED CREDIT HOURS		**32**

TECHNICAL CERTIFICATE

COMMERCIAL DRIVER LICENSE

This is an entry-level tractor-trailer driver course. The primary goal of the program is to train the student driver to obtain a Commercial Driver license. Supervised training is used as a reliable way of teaching the special skills required to safely and legally operate various types of tractor -trailer combinations (van trailer, tanker, doubles, and triples). The curriculum incorporates general theories of tractor-trailer operation including proper maintenance, pre-trip inspections, daily log requirements, professional tractor-trailer maneuvers (basic skills) and field trips (driving the rig) throughout the Four Corners area. Graduates are employable as professional over-the-road drivers, drivers for local companies, or establish their own trucking company.

The Commercial Driver's License (CDL) program is a six week program. Two sessions are offered each semester. Class size is limited and students are enrolled on a first come, first served basis. Students must be at least 18 years old and possess a current New Mexico driver's license and a DUI education certificate (if required), current DOT medical card, birth certificate, copy of NM Dept. MVD record, and proof of New Mexico residence (see page 9 for details) before applying to the commercial driver license program. Students who wish to obtain additional certification for hauling hazardous materials must be 21 years of age. After satisfactory completion of this training program, New Mexico state CDL examinations are given on-site.

Certificate - CDL Requirements: 18 Credits

COMMERCIAL DRIVERS LICENSE CERTIFICATE		
CDL REQUIRED COURSES:		**Credit**
CDL 100	General Knowledge	6
CDL 101	Pre-Trip and Backing Skills	3
CDL 102	Defensive Driving and Safe Practices	3
CDL 103	Driving Skills, Rules and Regulations	6
TOTAL REQUIRED CREDIT HOURS		**18**

COURSE DESCRIPTIONS

ACCOUNTING:

ACG-101 (3) Accounting Principles I
This is an introductory course in the theory and practice of accounting that covers the purpose of accounting, the accounting process, and the various types of ownership structure. Also covered are types of business, career opportunities in accounting, analyzing financial transactions, adjusting entries, accounting worksheets, financial statements, and the closing process. Computerized exercise problems are used to assist student understanding and proficiency. This course is only offered for fall enrollment.

ACG-111 (3) Accounting Principles II
This course is a continuation of theory and practice of accounting study began in ACG-101. Specialized accounting procedures for a service business and its environment, entrepreneurship, and small businesses are emphasized. Topics covered include the modified cash basis and combination journal, accounting for cash, payroll accounting, employee earnings and deductions, payroll accounting, employer taxes, and reports. *Prerequisite: ACG-101.*

ACG-112 (3) Income Tax I
This is a practical approach to the income tax system involving preparation of individual tax returns using forms 1040EZ, 1040-A, and 1040. Emphasis is on the fundamentals of tax regulations/laws, tax schedules, worksheets and forms, and includes discussion of dependents, exemptions and allowable credits. The course is offered in the spring semester only.

ACG-113 (3) Accounting Applications
This course uses practice sets and hypothetical businesses in the three basic forms of business—sole proprietorship, partnership, and corporation—in order to stress the appropriate accounting applications for each type of business. The latest accounting software is used as well as workshops and seminars. *Prerequisites: ACG-111 and any computer course.*

ACG-114 (3) Spreadsheet Accounting I
This is a tutorial and applications course using the Microsoft Excel software. This course is intended to reinforce accounting through the use of Excel spreadsheets. It is primarily a self-tutorial course that, in conjunction with Accounting I and II, teaches students how to produce graphs to support financial statements and other worksheets.

ACG-201 (3) Payroll Accounting
This course is designed to develop a well-rounded understanding of the payroll system used by all employers. The course concerns itself with all federal and state tax requirements, reporting forms such as the federal 940 and 941, depository requirements, and employee records resulting in a W-2 (Wage & Earning Statement). *Prerequisite: Third-semester accounting or public administration students only.*

ACG-204 (3) Advanced Accounting I
A continuation of Accounting Principles II (ACG-111), this course focuses on specialized accounting procedures for merchandising business and partnerships, accounts receivable, notes and interest, merchandise inventory, and long term assets. *Prerequisite: ACG-111.*

ACG-210 (3) Principles of Management
This is an introductory management course that will motivate student develop a basic understanding of management, its practices and techniques. It will also focus on the theory and fundamental concepts of management including planning, organization, leadership and control. Student will also be familiar with different ideas and terminologies that will be helpful in many managerial situations for the class will review the evolution of management thought, function and practice, will stress present approaches and developing concept by means of emphasizing different cases of management.

ACG-211 (3) Accounting Software Applications
This course is intended to reinforce accounting concepts through the use of integrated computerized accounting software. It provides a self-paced, step-by-step environment in which students use it to create financial statements and other financial reports to strengthen the ideas they learn in their first year accounting courses and see how computer software can be used to make business decisions. It covers single proprietorship, partnership and corporations and whether it's a general business, manufacturing, consulting, product-base, service-based, contractor, wholesale/distribution, engineering, non-profit, retail, and professional services type of business. *Prerequisite: ACG-114.*

ACG 212 (3) Introduction to Finance
This an introductory finance course designed to make students understand the basic finance concepts. This course includes studies on firm's financial goals and decisions to maximize shareholders' wealth. The course stresses the understanding of finance theory and working knowledge of the financial environment in which the firm operates in order to develop appropriate financial strategies. It examines financial concepts and analytical techniques, financial performance, time value of money, measurement of risk and return, capital budgeting, capital structure, short-term financial planning, working capital management, and international finance.

ACG-213 (3) Introduction to Fund Accounting
As an overview of not-for-profit organizations (organizations exempt from the payment of taxes), this course covers the role of management, financial analysis, the current status of financial accounting and managerial control in not-for-profit organizations, budgetary analysis and controls, and budget preparations.

ACG-214 (3) Advanced Accounting II
This course is a continuation of Advanced Accounting I (ACG-204) and covers accounting for corporations and manufacturing businesses, organization and capital stock, earnings and distribution bonds, the statement of cash flow, the indirect method, analysis of financial statements, departmental accounting, the job order cost system, and the worksheet and financial statement. *Prerequisite: ACG-204.*

ACG-215 (3) Income Tax II
This is a second year continuation of income tax preparation covered in Income Tax I (ACG-112). The course includes updating of new tax laws and regulations and practical tax preparation in the areas of corporations, partnerships, and not-for-profit organizations. *Prerequisite: ACG-112.*

ACG-216 Principles of Marketing
An introductory course in marketing which covers the evolution of modern management toward a marketing-oriented view of business; emphasizing the fundamental principles of the "marketing concept"; and integrating concepts in relation to consumer needs, marketing information, product development, pricing, distribution, selling, advertising and promotion.

ACG-220 (3) Cost Accounting
This course covers an analysis of cost data for goods and services for planning, controlling, and decision-making. Study of cost accounting emphasizes the concept of different costs for different purposes. The focus of study will be on cost accounting strategy and decision making process. It includes cost concepts and behavior, cost-volume-profit (break-even) analysis, Relevant costs for decision making, cost estimation, job costing, activity-based costing, cost allocation, budgeting and variance analysis.

ACG-225 (3) Managerial Accounting
This is an introductory course that stresses accounting concepts and procedures related to generating and using accounting information for planning, control, and decision-making of business operations. Student will learn alternative methods of preparing managerial accounting information and examining how these methods are used by different companies to maximize economic profit.

ACG-195/295 (1 – 3) Topics in Accounting
These courses cover a variety of topics surrounding the emerging applications and technologies in the areas of bookkeeping and accounting. Different section numbers indicate different topics so the course may be repeated for credit with differing section numbers. These courses are offered according to need, interest, and demand.

ADMINISTRATIVE OFFICE SPECIALIST

ADM-101 (3) Keyboarding & Formatting I
Keyboarding competence is the goal of the course. This course will use state-of-the-art word-processing software to learn to prepare letters, memos, reports, and other computer-based documents used in today's automated office environment.

ADM-105 (3) MS Excel Applications
This is a hands-on course in using Microsoft Excel. Various aspects of spreadsheet applications will be covered. *Prerequisite: ADM-101.*

ADM-111 (3) Keyboarding & Formatting II
Improved keyboarding competence is the goal of this course. Emphasis is placed on production of mail-able business letters, manuscripts, tables, business forms, and other correspondence on state-of-the-art equipment. *Prerequisite: ADM-101.*

ADM-113 (3) Office Procedures
Students will use supplemental materials to complete coursework in time management and stress reduction. The Office Procedures course will stress the following: the high-tech workplace, success behaviors, work ethics, diversity, office communications, meetings, conferences and travel.

ADM-114 (3) Business Mathematics and Calculators
This course will introduce the student to working with the computer and 10-key calculator to do mathematical business processes using various formulas. Using the reach process, students will achieve speed and accuracy. *Prerequisite: Must be a second semester student before enrolling in this course or have permission from the instructor.*

ADM-115 (3) Records Management
The students will apply rules for alphabetic, numeric, geographic, topical, and chronological filing by using individual names, business names, school government units, and other common organizational units in storing and retrieving documents. Computer applications will be introduced.

ADM-201 (3) Advanced Document Formatting
Keyboarding competence on state-of-the-art equipment is the goal. Students produce business letters using different sized letterheads, technical reports, graphic aids,

and IRS and FICA forms. Creation of legal and medical forms will be emphasized. *Prerequisite: ADM-111.*

ADM-202 (3) Office Communication
The purpose of this course is to develop professional oral and written proficiency that will lead to career success. Students will develop an awareness of the complexity of the communication process through writing clear, concise business documents. They will learn to manage the mail and various means of transporting documents from one location to another. In addition, they will learn telephone skills and business etiquette, and learn to communicate interpersonally as well as in a group.

ADM-203 (3) Advertising & Public Relations Strategies
This course will provide students with the knowledge of how to present a business to the public and will teach students about the tools available that will give business documents/publications a polished and professional appearance. Students will produce their own business cards and brochures, write a newsletter, and produce a publication that profiles the students at Navajo Technical University. These projects will create an understanding of the importance and usefulness of marketing as a strategy in the marketplace.

ADM-204 (3) Machine Transcription
This course will introduce the concept of document processing by means of receiving dictation from a recording device. Transcribing, formatting, proof-reading, creating, editing, and printing are skills taught in the class.

ADM-205 (3) Office Management
Students will be presented with an overview of the Total Quality Management Process. They will learn teambuilding and their role as administrative assistants within a team. Students will be introduced to a process-focused approach of achieving continuous, measurable improvement in the workplace through the use of the Navajo Nation Foundation of Education and the Shewhart Cycle used in the Total Quality Management Training. Finally, students will look at office design and its importance to the flow of work and production within the office environment. *Prerequisite: ADM-113.*

ADM-208 (3) Office Accounting
This course covers cash accounting including financial statements, trial balance, balance sheets, and income statements. Its focus is on sole proprietorship.

ADM-210 (3) MS Powerpoint Presentation Skills
This course will offer the opportunity for the student to combine technology with public speaking skills for use in the business environment. Presentation Skills concentrates on oral communication and integration of computer technology into public presentations. Students will also learn about effective listening, group decision-making, and the impact of culture on communication. Culmination of the semester's work will be a presentation made using PowerPoint software. *Prerequisites: ADM-101.*

ADM-213 (3) Internship
In the internship portion of this program, students will work a minimum of 150 hours at office-related, supervised worksites. The student trainee is paid by the cooperating firm and supervised jointly by NTU and the employer. Office practice procedures will be composed of several practice simulations such as receptionist, records clerk, secretary, and administrative assistant.

ADM-195/295 (1–3) Topics in Administrative Office Specialist
Topics courses will address a variety of subjects in emerging areas of administrative professional skill development. Different section numbers indicate different topics so these courses may be repeated for credit if section numbers are different. Courses are offered according to need, interest, and demand.

ADVANCED MANUFACTURING TECHNOLOGY

AMT-210 (3) Applied GD&T
This course will provide in-depth understanding of all the essential principles underling the Geometric Dimensioning and Tolerancing methodology, as set forth in ASME Y14.5.2-1995. Adherence to this standard has been shown to provide the highest level of built-in quality of manufactured artifacts. The course will include lectures on GD&T theory and practicum inspection lab exercises to reinforce the theory lectures.

AMT-311 (3) Laser Scanning Methods/ Techniques
Students will learn the basics of laser scanning for digital manufacturing and inspection. Medium to long range scanners and close range high quality scanners will be used in the course. Students will gain hands-on experience in capturing digital data, registering scans and processing scans.

AMT-322 (3) Structure & Property of Materials
The students will learn behavior of different engineering material under various conditions. Chemical, electrical, and mechanical properties of material will be investigated. *Prerequisite: PHY-101.*

AMT-325 (3) Digital Inspection/Quality Control
This course covers digital inspection utilizing computer-aided verification. Geometric dimensioning and tolerance control and basic size inspection will also be covered along with surface inspection and the basics of quality control.

AMT-370 (3) Robotics/Offline Programming
This course will cover the basics of industrial robotics and how to develop offline programming through simulations. Applications of robots, programming of robots, robot axes and kinematics will be explored

AMT-401 (4) Capstone
The capstone course will provide the students an opportunity to utilize the skills gained from the previous semesters. Students will begin a semester project containing several elements of industrial engineering and manufacturing, including project management, 3-D modeling, and computer simulation. The will contain the research and planning of the project along with a project proposal complete with deliverables. Students will provide a project report, a final presentation and deliverables agreed upon in the project proposal.

AMT-412 (3) Advanced Digital Inspection
Course will provide both theoretical and practical concepts of combining digital information from an entire suite of manufacturing systems such as CAD design programs, CNC machine tools, laser and structured light scanners, CCD cameras, CMM and Touch probe systems with the goal of establishing a seamless once-though manufacturing process with dependable precision.

AMT-415(3) Simulation of Manufacturing Systems
The objectives of this course are to provide the students with a strong working knowledge of computer aided methods of integrated manufacturing systems and computer simulation of individual sub-systems such as CNC machine tools in addition to high level integrated simulation of the complete production plant.

AMT-430(3) PLC Programing
An introductory to Programmable Logic Controls (PLC), focusing on the underlying principles and requirements of discrete event control methods (Boolean logic) as a basis for understanding how PLCs work. The course will also provide practical information and skills about installing, programming, and troubleshooting a PLC system.

ART

ART-110 (3) Art Studio I
This course is designed to introduce students to various concepts and techniques of drawing. We will begin by looking at forms, problem solving, and then gradually learn different ways of seeing through artistic eyes. By working with topics and subject matter that are Diné centered, we will be creating projects that are conducive to our lives and homes. Finally, the course will end with a gallery showing of our work.

ART-195 (1 – 3) Topics in Art
These topics courses are designed to explore contemporary or emerging trends in the art discipline. Content varies each semester so course may be repeated

for credit with differing section numbers. These courses are offered according to interest, need, and demand.

ASTRONOMY

AST-110 (4) The Solar System
This course is designed to survey the subject of solar system astronomy at the introductory level. We begin our journey with a brief history of astronomy with a focus on its role in Diné culture, and the study of cyclical motions of the objects we see in our sky. We will develop the physical principles needed to understand gravity and electromagnetic radiation (light) as we step our way through the planets and other objects in our solar system. Lab included. *Lab fee: $125.00.*

AST-112 (4) The Cosmic System
This course is designed to survey the subject of galactic astronomy at the introductory level. We begin our journey with a brief history of astronomy with a focus on its role in Diné culture, and study the cyclical motions of the objects we see in our sky. We will develop the physical principles needed to understand gravity and electromagnetic radiation (light) as we step our way through our galaxy and into the universe as a whole. Lab included. *Lab fee: $125.00.*

AUTOMOTIVE TECHNOLOGY

AUT-101 (3) Introduction to Automotive Technology
This course covers opportunities for employment, automotive technician responsibilities, and an overall view of the modern day automobile industry. Shop safety, tools, shop equipment, repair parts, and other accessories are topics covered in this course. The operation of a gasoline engine, various procedures for diagnostic analysis, and the repair of those engines will be performed.

AUT-102 (4) Brake Systems
The theory, diagnosis, and repair of disc and drum brakes is covered in this course. Mechanical and hydraulic theory and principles will be addressed, as well as brake resurfacing, precision measuring, overhauling, bleeding, and adjusting. Anti-lock brake system theory, diagnosis, repair, and scanning will also be learned.

AUT-103 (4) Electrical and Electronic Systems
This course teaches electrical theory, diagnosis, and repair as it pertains to automotive applications. Starting and charging systems, batteries, body electrical systems, engine compartment electrical systems, and accessories are some of the topics that will be covered.

AUT-104 (4) Chassis, Suspension, and Steering
This course teaches wheel alignment theory, diagnosis, and repair for both front- and rear- wheel drive vehicles.

Some of the topics covered include suspension systems, tire and wheel analysis, shocks and struts, bushings, and manual and power steering components.

AUT-111 (4) Drive Trains and Axles
This course will cover the theory, diagnosis, and repair of various drive train components on front and rear wheel drive vehicles. Systems that include U-joints, C/V joints, drive lines, flywheels, clutches, manual transmissions, transaxles, differential ring and pinion, axles, and yokes are explained. Seals, bearings, and fluids are additional topics that will be taught.

AUT-113 (4) Tune-Up/Engine Performance
This course will cover conventional and electronic gasoline engine tune-up procedures. Topics will include engine mechanics, fuel systems, ignition systems, and computer systems. Modern engine control system diagnostics and repair procedures pertinent to today's automobile will also be covered. *Pre-requisite: AUT-103.*

AUT-114 (4) Automatic Transmission and Transaxle Overhaul
This course is a study of the operation, hydraulic principles, and related circuits of modern automatic transmission and transaxles. Topics include diagnosis, disassembly, and assembly procedures with emphasis on the use of special tools and proper repair techniques.

AUT-195 (1–3) Topics in Automotive Technology
These topics courses are designed to explore contemporary or emerging technologies in the automotive technology field. Content varies each semester so course may be repeated for credit with differing section numbers. These courses are offered according to interest, need, and demand.

AUT-203(4) Advanced Electrical and Electronics Systems
This course is a continuation of AUT-103 and teaches advanced electrical theory, diagnosis, and repair. The course also offers more in-depth study of starting systems, charging systems, batteries, body electrical systems, engine compartment electrical systems, and accessories. *Prerequisite: AUT-103 or permission of the instructor.*

AUT-212 (3) Heating/Air-Conditioning Systems
This course covers the theory, diagnosis, and repair of heating and air conditioning systems as they pertain to the automobile. Compressors, hoses, receiver driers, evaporators, condensers, expansion devices, heater cores, water pumps, thermostats, core plugs, fans, and belts are some of the components that will be covered. National standards for the safe and environmentally correct use of refrigerants will also be emphasized.

AUT-213 (4) Advanced Engine Performance
This course covers diagnostic procedures pertinent to today's automobile. Some of the topics of instruction will include wiring diagrams, sensor diagnostics, check engine light diagnostics, engine analyzer diagnostics, scan tool diagnostics, electrical meter diagnostics, and other forms of modern automotive diagnostics. *Prerequisite: AUT-113 or permission of the instructor.*

AUT-215 (4) Engine Repair
This course teaches the theory and repair of all types of automotive engines and engine-related components. Engine blocks, intake and exhaust manifolds, cylinder heads, valve trains, pistons, connecting rods, and crank shafts are some of the topics that will be covered. Precision measurement, shop safety and good working habits will also be introduced to the student throughout the course.

AUT-285 (3) Practicum in Automotive Technology I
This course will consist of Hands-on assignments here at the Navajo Technical University Automotive Shop.

AUT-286 (3) Practicum in Automotive Technology II
This course will consist of Hands-on assignments here at the Navajo Technical University Automotive Shop.

BIOLOGY

BIO-110 (4) Elements of Biology
This is a Biology course for non-Biology majors. Biological principles important for the non-scientist in today's world including ecological, nutritional, human anatomy, evolutionary, and molecular topics will be covered. Lab included. *Lab fee: $125.00.*

BIO-120 (4) Principles of Biology I
Topics covered in this course include impact biology, biological chemistry, molecular genetics, Mendelian inheritance, and embryology. The emphasis of the course is placed on development concepts. Lab included. *Lab fee: $125.00.*

BIO-122 (4) Principles of Biology II
As a continuum of BIO-120, this course focuses on population genetics, evolution, ecology, behavior, plant and animal physiology, and survey of diversity of organisms. An introduction to microbiology with emphasis on princip*les of infection and immunity is also part of the course. Lab included.* Prerequisite: BIO-120. *Lab fee: $125.00.*

BIO-222 (4) General Botany with Laboratory
This course emphasizes plant life cycles, anatomy, morphology, taxonomy, and evolution. It also considers the principles of genetics, ecology, and physiology. The laboratory will cover plant families with hands on dissection of plants using appropriate dissection

equipment and tools. Three lectures and one laboratory period. *Lab Fee: $125.00*

BIO-130 (4) Human Anatomy and Physiology I
This course examines structure and function of the human body: cells and cellular processes, tissues, integumentary, skeletal, muscular, and nervous systems. *Prerequisite: Permission of the Instructor.*

BIO-131 (4) Human Anatomy and Physiology II
This course is a continuation of the structure and function of the human body. Study focuses on sensory, circulatory, respiratory, digestive, urinary, reproductive and endocrine system. *Prerequisite: Grade of "C" or better in Human Anatomy and Physiology I or permission of the instructor.*

BIO-224 (4) Microbiology
This Course is an introductory survey of Anatomy, Physiology and Ecology of Microorganisms. Emphasis on the characteristics of microbes (Particularly the Pathogenic Bacteria- Archaea and Eubacteria).It will also cover Protistians, Fungi Viruses Helminths, Algae, and Arthropods of medical importance. Within this context, bacterial techniques, host-parasite relationships and infection and immunity will be covered. Prerequisite: *BIO-120 or BIO-122 or permission of the instructor.*

BAKING

BKG-101 (8) Professional Baking I
The Professional Baking I course provides students with the basic skills and knowledge for entry levels in baking in a professional environment. Instruction focuses on a maximum hands-on experience as well as theory and kitchen safety. Students will be involved in all aspects of baking preparations including breads, sweet breads, assorted pastries, cakes and cake decorating. *Prerequisites: Successful completion of ENG-098 or equivalent and MTH 097 or equivalent, or instructor approval. Course Fee: $100.00*

BKG 109 (3) Professional Baking Basics
The Professional Baking Basics course provides students with the basic knowledge needed to understand the day-to-day operation of a free-standing bakery or hotel bakery department. Students will be involved in all aspects of baking preparation including a strong emphasis on display, marketing, and sales aspects.

BKG-111 (8) Professional Baking II
This course will include baking and pastry theory topics, demonstrations, and hands-on applications. Students will have the opportunity to further develop proficiencies in a variety of breads, fillings, tarts, pies, and specialty desserts. Emphasis will also be on advanced theory topics, skills, and techniques of classical and contemporary pastry arts. Specialty topics will include Genoese, international buttercreams, icings, sugar and chocolate decoration. *Prerequisites: BKG-101 and CUL-102. Course Fee: $100.00*

BKG-112 (3) Professional Internship
The internship features on-the-job training at different locations. The student improves cooking and baking skills along with developing an understanding of cooperation and respect with regard to fellow workers, supervisors, and future employers. *Prerequisites: BKG-111 or CKG111.*

BKG-195/295 (1 – 3) Topics in Commercial Baking
This course covers a variety of topics in the field of commercial baking. Course content varies each semester so the course may be repeated for credit with differing section numbers. The course is offered based upon demand, interest, and need.

BKG-201 (3) Art of Grand Finale
Students will learn the art of designing, decorating and plating individual desserts for single-serving and banquet functions. Students will also learn chocolate and pulled-sugar techniques. *Prerequisite: BKG111. Course Fee: $100.00*

BKG-202 (3) Advanced Cake Decorating
Students will learn a variety of cake-baking skills and advanced decorating techniques from single-serving cake portions to wedding cakes to cakes for banquet dessert tables. *Prerequisite: BKG111. Course Fee: $100.00*

COMMERCIAL DRIVER LICENSE

CDL-100 (6) General Knowledge and Endorsements
This course covers the general knowledge of combination vehicles, air brakes, tank vehicles, doubles, triples, hazardous material, defensive driving, log books, trip planning, map reading, and drug and alcohol avoidance.

CDL-101 (3) Pre-Trip and Backing Skills
This course provides the students opportunities to practice their skills in backing a tractor-trailer. The students will perform straight-line backing, alley docking, parallel parking, conventional and sight-side parking, and backward serpentine control.

CDL-102 (3) Defensive Driving and Safe Practices
This course will provide opportunities for students to practice shifting and lane control, left and right turns, light and medium city traffic, Interstate highway navigation, the proper use of on and off ramps, mountain driving, and railroad crossings. Safety is stressed at all times.

CDL-103 (6) Driving Skills, Rules and Regulations
The students will practice over the road skills and perform 108 pre- and post- trip inspections. The students will also learn the skills necessary to be used in hooking and unhooking trailers and securing various loads.

CHEMICAL ENGINEERING TECHNOLOGY

CHEME-117 (1) Introduction to Chemical Laboratory Equipment
A chemical laboratory equipment course that introduces the student to different laboratory equipment and techniques they will use later in the curriculum. Teaches the students about how to use the lab equipment safely and effectively. Topics include, glass wares, PH meters, balances, making solutions, building apparatuses and exposure to all of the standard and commonly used chemical laboratory equipment.

CHEME-115 (2) Introduction to Process Industries
A comparative discussion of a number of chemical industries and the details of their processes. Includes unit operations, unit processes and economics. Classification of various process industries includes (oil and gas, chemical, mining, power generation, pulp and paper, water and waste water treatment, food and beverage, and pharmaceutical).

CHEME-130 (2) Introduction to Process Operations
Introduction to chemical and refinery plant operations. Topics include process technician process technician duties, responsibilities and expectations; plant organizations; plant process and utility systems; and the physical and mental requirements of the process technician. Also, the course is designed to provide hands-on experience in process operations, instrumentation and controls.

CHEME-202 (4) Industrial Chemistry and Lab
Chemical concepts of industry, basic chemical engineering and chemical processing, basic organic chemistry, synthetic polymers, diffusion, fluid flow, heat transfer, air and water pollution, and energy routes. *Prerequisite: A grade of C in CHEM 120/122.*

CHEME-222 (4) Fundamentals of Chemical Engineering
Use of basic mathematical concepts and computer tools, physical laws, stoichiometry and the thermodynamic properties of matter to obtain material and energy balances for steady and unsteady state systems. This course introduces basic mass and energy balances as preparation for subsequent courses in heat transfer, fluid flow, mass transfer and reaction engineering for physical, chemical, metallurgical and biological processes. All these processes begin with general mass and energy balances. *A grade of A in a course equivalent to MTH-121 or satisfactory placement score.*

CHEME-223 (3) Petroleum Refinery Engineering & Petrochemicals
Topic to be covered include: gasoline, diesel, plastic, rubber, and synthetic fiber, catalytic reforming of naphtha, oil refinery processes, fluid catalytic cracking, ethylene, propylene, steam cracking of natural gas liquids such as ethane and propane, detergents, and adhesives. *Prerequisite: A grade of C in CHEM 122.*

CHEME-224 (4) Quality Control in Chemical Engineering
The course will cover how products are designed, manufactured, and brought to market. Additionally, students learn to track how these products perform in the consumer market and how to package and transport products in optimal ways. The course will emphasize on the procedure of the control of the quality and testing methods of products to uncover defects and reporting to management who make the decision to allow or deny product release. The course is a combination of lectures, class work and possible practical training. *A grade of A in a course equivalent to in MTH-121 or satisfactory placement score.*

CHEME-230 (4) Practicum in Industry
The course introduces the processes to appropriate practicums and provides counselor trainee experiences that complement classroom learning and help prepare the students for employment. Students will learn how to explore state-approved community treatment agencies and apply for placement with them by developing a resume and cover letter, and interviewing with sites open to student placement. Students will be learn to observe and participate in treatment programs, while practicing professional behavior and learning about the organizations.

CHEMISTRY

CHM-110 (4) Elements of Chemistry
This is a one-semester course in general chemistry designed for non-science majors. Topics covered include the study of matter, the scientific method, chemistry measurements, environmental chemistry, energy, food, drugs, and health. A lab is included as part of the course. *Lab fee: $125.00.*

CHM-120 (4) General Chemistry I
This course introduces students to chemistry measurements, atomic structure, chemical reactions, gases, thermochemistry, and bonding. A lab is also included as part of the course. *Prerequisite: MTH-120. Lab fee: $125.00.*

CHM-122 (4) General Chemistry II
As a continuum on CHM-120, topics in this course include liquids, solids, solutions, kinetics, equilibrium, acids and bases, thermodynamics, electrochemistry, and nuclear chemistry. A lab is included as part of the

course. *Prerequisite: CHM-120. Lab fee: $125.00.*

CHM-254 (4) Environmental Chemistry with Lab
This course is a topics-based approach to the chemistry of the environment. Students in this course are expected to have some knowledge of chemistry, with a desire of applying this knowledge to the environment. Topics of interest include environmental chemistry of water, water pollution, water treatment, geochemistry, atmospheric chemistry, air pollution, radioactivity, hazardous materials and resources. Three lectures and one laboratory period. *Lab Fee: $125.00*

CHM-286 (4) Inorganic Chemistry with Lab
Build a descriptive and theoretical framework for understanding inorganic systems. Advanced atomic structure and bonding theories will be applied to understanding the properties and reactions of inorganic compounds. Systematic presentation of properties and reactions of representative elements of the periodic table with application of chemical principles. Theories of electronic structure, stereochemistry, and symmetry properties of inorganic molecules. Three lectures and one laboratory period. *Lab Fee: $125.00*

CHM-468 (4) Organic Chemistry with Lab
Study the fundamentals of bonding, structure and nomenclature of carbon compounds. Introduce the principles of stereochemistry and reaction mechanisms with alkanes, alkenes, alcohols and alkyl halides. Discuss acid-base, nucleophilic substitution, electrophilic addition, and elimination reactions. The laboratory will cover techniques of synthesis, separation and analysis of organic compounds. Three lectures and one laboratory period. *Lab Fee: $125.00*

COOKING

CKG 101 (8) Professional Cooking I
The Professional Cooking I course provides students with the basic knowledge needed for entry into the professional food industry. Instruction focuses on a maximum hands-on experience, as well as theory and food safety and sanitation. Students will be involved in all aspects of meal preparation for the staff, students and community. *Course fee: $100.00*

CKG 108 (3) Professional Cooking Basics
The Professional Cooking Basics course provides students with the basic knowledge needed to understand the day-to-day operation of a commercial kitchen. The course will involve a strong emphasis on planning and organization of a food service operation which includes recipe breakdown, scheduling, ordering, and menu planning. Students will also learn about the basic cooking styles used in all professional kitchens. *Prerequisite: CUL-101 or BKG101. Course fee: $100.00*

CKG-111 (8) Professional Cooking II
Students advance into more intricate cookery methods associated with dinner and banquet preparation. Table service and banquet setups are also covered. This course also gives the basics of baking and dessert creation. *Prerequisite: CUL-101. Course fee: $100.00*

CKG-112 (3) Professional Internship
The internship features on-the-job training at different locations. The student improves cooking and baking skills along with developing an understanding of cooperation and respect with regard to fellow workers, supervisors, and future employers. *Prerequisite: CKG111 or BKG111.*

COMPUTER TECHNOLOGY

CMP-101 (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.

CMP-110 (3) Desktop Publishing
This hands-on course uses Adobe PageMaker to create professional quality layouts for flyers, signs, invitations, and other complex documents. Concepts such as inserting art into text, text flow, kerning, tracking, artistic text, paragraph text, text-on-path, and document aesthetics are unique to desktop publishing. *Prerequisite: ADM-101.*

CMP-115 (3) Database Management Concepts
The Microsoft Access relational database will be used teach this course. Topics covered are the creation of a database, using tables and forms, accessing and querying for information, and creating custom reports. *Prerequisite: CMP-101 and ADM-101 or ADM-105*

CMP-117 (3) Operating Systems
This hands-on course will teach the basics of DOS (Disk Operating Systems) and Microsoft Windows. This class will cover copying disks and files, navigating through directories and subdirectories, and basic troubleshooting. *Prerequisite: CMP-101.*

CMP-195 (1 – 3) Topics in Applied Computers
This course introduces new application software and emerging technologies. The specific course content varies by semester so course may be repeated for credit with differing section numbers. Typically, the

course that is offered under this heading is an elective and is offered according to interest, need, and demand.

CMP 301 (3) Digital Publishing

This is an introduction to digital publishing. There is a digital dimension to almost every form of publication in the contemporary world. This is as true for movies and music as it is for books that are printed or that appear as an e-book. Some of the topics aspiring writers need to know about include: Writing and editing on the Web, blogging, web design, electronic editing, dynamic web design for author's websites, understanding pdf and html, e-book publishing for the Kindle, the Nook, and tablets, and using Twitter, blogs, and Facebook in marketing what you write. Students will be required to produce either a blog using wordpress or an e-book using Kindle's e-publishing platform as a requirement to earn a passing grade in the course.

COMMUNICATION

COM-130 (3) Public Speaking

This course is designed to help students develop skills in presentational speaking appropriate for a variety of communication contexts. Through in-class oral presentations, students will become more comfortable communicating in public situations and develop their capacity to analyze the presentations of others. The emphasis of the course is on the creation of presentations related to each student's program/trade. *Prerequisite: ENG-105 or ENG-110 or a comparable English course.*

COM-150 (3) Interpersonal Communication

Interpersonal communication details a range of personality types that students can expect to interact with at work, within the family, and in friendships. Students learn a variety of methods to relate effectively with others, including defense strategies to use in difficult communicative encounters. This is a hands-on course in which techniques are scripted and practiced through role-playing. *Pre-requisite: ENG-105 or ENG-110 or a comparable English course.*

COM-210 (4) Journalism

This course is designed to introduce students to the various kinds of non-fiction writing for the media. Students will progress through the elements of newswriting including the essentials of leads, grammar and style, basic structures, research, and interviewing, as well as feature writing and opinion writing. The journalism lab is designed to create a student-managed school newspaper so students can practice and apply the basics of newswriting that they study in the classroom. *Pre-requisite: Must be concurrently enrolled in or have successfully (earned a grade of C or higher) completed ENG-105 or ENG-110 or a comparable English course.*

COM-195/295 (1 – 3) Topics in Communication

This course addresses a variety of topics in the field of communication. It may include interpersonal and mass communication, mass media studies, media literacy, environmental, health, and family communication, as well as small group and organizational communication. Course content varies each semester so the course may be repeated for credit with differing section numbers. This course is offered according to interest, need, and demand.

COMPUTER SCIENCE

CS-100 (3) Programming I

This course introduces the student to some of the basic concepts of programming languages. Statements such as assignments, conditional statements, and loops will be covered. The student will learn how to write simple programs.

CS-120 (3) Computational Thinking

This course prepares the student to problem solving, using fundamental concepts of computer science. The latter includes problem solving, abstraction, modularity. Computational thinking can be used to solve problems algorithmically and efficiently.

CS-125 (3) Scripting

This course is to introduce the student to writing lightweight computer programs to automate the process of solving certain problems. This course will also be used to familiarize the student with the command-line interface.

CS-150: (3) Programming II

This course in a continuation of CS 250, and will cover concepts in the object-oriented language JAVA, such as classes, objects, and inheritance. *Prereq: CS 100*

CS-175 (3) Introduction to Computer Organization

This course prepares the student for Computer Organization. Binary, octal, and hexadecimal numbers will be covered, as well as conversions from one system into another. Two-complement numbers will be introduced. Assembly language, control mechanisms, memory, input, output will be introduced at a basic level.

CONSTRUCTION TECHNOLOGY

CT -100 (3) Residential Construction and Carpentry

This course is designed to prepare students for entry into the Advanced Residential Construction course. Instruction includes identifying and utilizing all tools and machines associated with carpentry, material layout, the cutting, shaping, and assembling of wood products, furniture construction and cabinetry. The course also presents information related to current manufacturing materials and techniques, technologies, and equipment used to produce products for the

marketplace. In addition to technical skills, students completing this course will also develop advanced critical thinking, applied academic skills, and career development skills. *Course fee: $100.00*

CT -102 (2) Introduction to Technical Drafting
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.

CT - 103 (3) Introduction to Craft Skills
Development of skills and techniques necessary for basic construction/industrial maintenance craft skills. *Lab Fee: $125.00.*

CT -104 (3) Concrete and Masonry Construction
A study of the versatility, durability, and mix design of quality concrete. Also included is the study of the use of masonry in modern construction. Both classroom and laboratory experiences will assist students in developing a firm understanding of use concrete and masonry materials. *Lab Fee: $125.00*

CT -108 (2) Residential Plumbing
In this course, students will be introduced to all aspects of residential plumbing and be able to identify and utilize hand and power tools associated with residential plumbing. In addition, students will begin to learn about site layout and the identification of symbols related to plumbing. This course is designed to teach the basics that students will build upon in the Advanced Residential Plumbing course.

CT -109 (2) Basic Electric
This course is designed to provide students with the fundamentals of the electrical trade, including the information and basic skills needed for identification and proper usage of materials, blueprint reading, and the use of hand and power tools associated with residential wiring.

CT -110 (3) Advanced Residential Construction and Carpentry
This course provides practical experience and related technical information for occupations specializing in carpentry. Students will learn to utilize layout tools, layout building lines, form concrete, frame floors, walls, roofs, install roofing components, install thermal, sound and moisture protection, install doors, windows, and trim, apply exterior and interior components, apply roof coverings, paint surfaces, and decorative woodworking. *Prerequisite: CT -100. Course fee: $100.00*

CT - 111 (3) Woodworking with Lab
The carpenter's working tool kit, including shop tools, will be used by students in accordance with pre-established safety practices. Small projects will precede larger ones, and a semester project showing the student's progress will account for most of the grade. *Course fee: $100.00*

CT - 112 (3) Field Project I
As work becomes available in the field, transportation will be provided to enable students to test their skills at a job site. Industry standards will be emphasized and quality workmanship required. A general understanding of the complete building process will result from the varied tasks asked of each individual.

CT - 110 (3) Advanced Residential Construction and Carpentry
Aspects of commercial carpentry are introduced and their relation to the overall construction process and interaction with the other trades. Students will learn state and federal regulations, job safety, building code requirements, and other topics related to commercial construction.

CT -113 (3) Cabinet Making
This course is a continuation of Woodworking I. Shop techniques for cabinetmaking and simple furniture will be introduced and projects will reflect advanced techniques in woodworking. *Prerequisite: CT -111. Course fee: $100.00*

CT -114 (3) Field Project II
This project will provide students with a second opportunity to perform carpentry fieldwork in the construction industry. On-the-job training (with strict attendance requirements) to fulfill stated production requirements is expected and high quality workmanship is required. A comprehensive view of the complete building process will result from the realistic variety of tasks each student performs. *Prerequisite: CT -112*

CT-195 (1 – 3) Topics in Construction Technology or Carpentry
This course explores a variety of contemporary technologies and applications in the field of construction technology. Course content varies each semester so the course may be repeated for credit with differing section numbers. The course is offered based upon the need, interest, and demand.

CTR-115 (2) Introduction to Blueprint Reading
This course will give students a basic understanding of the skills required to read and interpret blueprints and other documents referring to construction specifications. Emphasis is on terminology, symbols, notations, scaling, dimensioning, and basic blueprint interpretational techniques. Students will recognize and be able to read floor plans, elevation views, sectional views, detail views, and will be able to plot dimensions and specifications. Mathematical calculations associated with blueprint reading will also be introduced.

COUNSELING

COU-101 (3) Introduction to Counseling Theories
This course provides knowledge in current theoretical approaches to counseling. Theoretical models such as psychodynamic, existential, person-centered, cognitive and behavioral therapy, rational emotive behavioral therapy, family systems, individual, and solution-focused therapies will be studies.

COU-106 (3) Counseling Substance Abuse in Schools and Communities
This course will cover substance abuse issues in the society. Substance abuse and addiction within family, impacts to members of the community as well as intervention and treatment approaches will be discussed.

COU-103 (3) Personality Psychology
This course will provide a foundational knowledge of the nature and nurture determinants of human behavior. It will include the definition and scientific measurement of personality. Theories studied will include the psychodynamic, Neo-Freudian, biological, humanistic, cognitive, traits, and behavioral theories.

COU-110 (3) Internship
Students will do internships in behavioral health facilities to gain practical knowledge about counseling in the areas of substance abuse prevention and treatment, personality psychology, counseling theory, etc.

CULINARY ARTS

CUL-102 (3 Credits) Food Service Math
Students learn and apply basic mathematics in a working situation using recipe conversions, costing standard recipes, following production sheets, using portion control, and limiting the percentage of food waste.

CUL-103 (3) Food Safety & Sanitation
In this course, students will learn about food borne illnesses, kitchen safety, fire hazards, and in-depth kitchen sanitation procedures based on current professional standards. Upon successful completion of the course, students will also receive their Food Handler's Permit and Serv-Safe certification.

CUL-105 (3) Nutrition
This course will cover information regarding nutrition in the food service industry. Topic areas will include fats, carbohydrates, protein, vitamins, minerals, additives, and chemical pesticides. Students will use the food pyramid in relation to menu analysis. The digestive system for food intake will be examined through video presentation. Students will examine product labels, using information from the Food and Drug Administration.

CUL-195/295 (1 – 3) Topics in Culinary Arts
This course covers a variety of topics in the field of culinary arts. Course content varies each semester so the course may be repeated for credit with differing section numbers. The course is offered based upon demand, interest, and need.

CUL-201 (3) Servsafe Essentials
This course will include basic and advanced food safety and sanitation techniques, demonstrations, and hands-on application of local, state, and federal laws. Students will have the opportunity to pass and take the national sanitation test for a National ServSafe Certificate.

CUL-205 (3) Food & Beverage Management
This course is designed to introduce the students to all aspects of an operating restaurant and how to apply management skills to successfully run an operation from kitchen to dining room. The students will also learn menu design, wine list organization, bar management, inventory control and executing a successful operational plan.

CUL-206 (3) Banquets & Catering
This course will prepare students to plan, prepare a menu for, and execute an off-site catering and an in-house banquet. Students will learn how to plan events ranging from a simple coffee service to an appetizer party to a buffet line to a full five-course sit-down meal. *Course fee: $100.00*

CUL-207 (3) Management & Supervision
This course is designed to prepare students for focusing directly on the first line hospitality supervisor and applying the wisdom of management theory and experience to the hospitality workplace in down-to-earth terms. The course is also designed to meet the management challenges in terms of the growing need for understanding the basics of human relationships.

DRAFTING- COMPUTER-AIDED

DFT-101 (3) Technical Drafting
This course will introduce the students to technical drafting, the tools used in drafting, the different types of drafting, and use of both traditional hand drafting and CAD. Students will cover the basics of mechanical drafting, architectural drafting, and civil drafting. Students will learn how to view objects and describe them through technical representations.

DFT-111 (3) Mechanical Drafting
This course will cover mechanical drafting techniques using 2-D drafting software as well as 3-D software. The course will cover the essentials of mechanical drafting including orthographic projections, sectional views, auxiliary views, threads, fasteners, and springs, and dimensions. *Pre-requisite: DFT-101 or permission of the instructor.*

DFT-112 (3) Architectural Drafting
This course will cover the basics of architectural drafting using 2-D drafting software as well as 3-D software. This course will give the students the tools to create floor plans, electrical plans, plumbing plans, foundation plans, elevations, and sections. The students will utilize the tools learned in Computer - Aided Drafting I and II in order to create construction documents efficiently. *Pre-requisite: DFT-120 and DFT-220*

DFT-120 (3) Computer-Aided Drafting I
This course is designed to help students gain proficiency in computer-aided drafting skills using AutoCAD software. The course will cover the basic commands to create simple AutoCAD 2-D drawings, thereby creating a strong foundation for more advanced tools.

DFT-121 (3) Introduction to AutoCAD
This course is designed for the student who wants a general introduction to computer -aided drafting, but is NOT enrolled in the Computer-Aided Drafting program. No previous computer experience is required for this course.

DFT-201 (3) Geometric Dimensions and Tolerance
This course is an introduction to general tolerances, symbols and terms, data, material condition symbols, form and profile, tolerance orientation, and local tolerance. *Prerequisite: DFT-111 or permission of instructor.*

DFT-210 (3) Descriptive Geometry
This course presents the fundamental principles of descriptive geometry using instrument drawing and AutoCAD. The course involves analyzing and solving 3-D problems involving point, lines, planes, and solids as well as advanced auxiliaries and revolutions. *Prerequisites: DFT-111 and DFT-220 or permission of instructor.*

DFT-212 (3) Advanced Architectural Drafting
This course will build on the skills obtained in Architectural Drafting (DFT-112) by using mostly 3-D architectural software. Students will create 3-D architectural models, create documents from the models, and learn visualization techniques used in many of today's architectural firms. *Prerequisite: DFT-112 or equivalent or permission of the instructor.*

DFT-220 (3) Computer-Aided Drafting II
This course is a continuation of Computer-Aided Drafting I (CAD-120). Students continue to build on the skills obtained in CAD I by using more advanced techniques and 3-D drawing techniques. This course will also show students how to become more efficient and creative in creating drawings. Each student will have the opportunity to take the Autodesk Certified User

exam. *Prerequisite: DFT-120 or permission of instructor.*

DFT-230 (3) Advanced Computer-Aided Drafting
This is an advanced course based on independent study that can cover advanced subjects in computer -aided drafting and/or geographic information systems such as learning new software or integrating different software applications for a project. The course can be repeated for credit with different subject matter. *Prerequisite: DFT-220 or permission of instructor.*

DFT- 240 (3) Building Codes
This course introduces commercial (current International Building Codes) and residential building codes (current International Residential Codes). In addition, accessibility standards such as the American with Disability Act (ADA), fire safety, and space planning. Knowledge of standard building codes will prepare students to apply to floor plans generated in the Architectural Drafting courses.

DFT- 250 (3) Construction Management/Estimation
This course covers the managerial oversight of a construction project and estimation. Topics covered are coordinating, hiring, and fulfilling construction contracts. Emphasis on managing materials, equipment's, budgets, schedules, and employees.

DFT-290 (3 – 12) Internship
Internship opportunities will be limited to what is available. Students will work part-time to full-time and earn appropriate credit hours accordingly. The internships may include, but are not limited to, mechanical drafting, 3-D application, architectural drafting, 3-D modeling, or civil drafting. The internship must be approved by the instructor and students will be required to prepare oral presentations to appropriate classes as assigned by the instructor.

DFT-195/295 (1– 3) Topics in Computer-Aided Drafting
This course presents a variety of topics related to emerging technologies in the field of computer -aided drafting. Course content varies each semester so the course may be repeated for credit with differing section numbers. The course is based upon need, interest, and demand.

EARLY CHILDHOOD MULTICULTURAL EDUCATION

ECM-110 (3) Child Growth, Development and Learning
This is a basic course in the growth, development, and learning of young children (pre-birth through age eight) and will provide students with the foundation for becoming competent early childhood professionals by enhancing their knowledge concerning the growth of young children and their development and learning

methods. Major theories of child development will be integrated with all aspects of typical and atypical development, including the biological, physical, social, cultural, emotional, cognitive, and language domains. The adult's role in supporting each child's growth, development, and learning methods will be emphasized.

ECM-112 (3) Health, Safety, and Nutrition
This course instructs students in recognizing and responding to each child's physical health, emotional well- being, and proper nutritional and safety needs. The course will address how to appropriately plan, maintain, and facilitate the use of indoor and outdoor learning environments in order to promote each child's physical and emotional well-being, with additional consideration for the requirements of children with special needs.

ECM-116 (3) Family and Community Collaboration
This course examines common elements of the culture in order to discover how they formatively influence family systems. We will seek to develop an understanding of how the effects of culture on family structures influence the individual and the perspective through which the world is viewed and interacted upon. Variances (including disabilities, race, ethnicity, gender, and social class) are addressed with respect to interaction with adults and other children.

ECM-125 (3) Introduction to Literacy and Reading Development
This course is designed to prepare early childhood professionals to promote children's emergent literacy and reading development. The course lays the foundation for early childhood professionals to become knowledgeable about literacy development in young children. An integrated language arts perspective and an interdisciplinary approach as it addresses the developing abilities in writing, reading, and oral language in the home and school contexts will be discussed.

ECM-210 (3) Guiding Young Children
This class explores various theories of child guidance and the practical application of each. The course provides developmentally appropriate methods for guiding children and effective strategies and suggestions for preventing and handling classroom discipline problems. Positive discipline strategies for dealing with violence, aggression, anger, and stress will be explored. Emphasis is placed on helping children become self-responsible, competent, independent, and cooperative learners.

ECM-220 (3) Curriculum Development & Implementation I
This course focuses on developmentally appropriate content in early childhood programs. Students will be provided instruction addressing relevant content for teaching and learning experiences for children from birth through age eight. Adapting content areas to meet the requirements of children with special needs, including the development of IFSPs and IEPs, is the focus of this course. Course materials offer instruction in curriculum development in all areas including literacy, arithmetic, the arts, health, science, social skills, and adaptive learning for children from birth through age eight.

ECM-220A (2) Practicum I
This practicum provides opportunities for students to work six (6) hours per week in an early childhood setting. This on-the-job experience will enable the students to practice competencies learned throughout the course from lectures and the texts. Students will interact with culturally and linguistically diverse communities.

ECM-225 (3) Curriculum Development & Implementation II
The course focuses on the learning environment and curriculum implementation in early childhood programs. Instruction uses varying program models and learning environments that meet the individual needs of all young children, including those children with special needs. The class provides the opportunity to create environments for children in which to learn cooperation with peers, responsibility, autonomy, development and learning, literacy, dialogue or expression, and appropriate uses of technology. Students will demonstrate their ability to work collaboratively with educational assistants, volunteers, families, and other family support professionals to individualize the curriculum and to meet program goals. *Prerequisite: ECM-220.*

ECM-225A (2) Practicum II
This practicum provides opportunities for students to apply knowledge gained from ECM-225 and develop skills in planning learning environments and implementing curriculum in programs serving young children, birth through age eight, including those with special needs. *Prerequisite: ECM-220 and ECM-225.*

ECM-235 (3) Assessment of Children and Evaluation of Programs
This course will focus on appropriate programming for and assessment of typical and atypical young children, the role of parents in designing programs for young children, the role of assessment in the development of curricula, and the role of culture and language in the assessment process. This course will familiarize students with a variety of assessment methods and instruments. Students will develop skills for evaluating the assessment process, and involving families in the process. Students will practice observing and recording the behavior of young children and using this information to develop curriculum. Finally, students will become familiar with the New Mexico Standards for Excellence Compliance Manual.

ECM-245 (2) Professionalism

The purpose of this course is to have students examine major curriculum models and experience working with children of different ages in a diverse community. The course gives students opportunities to explore a variety of models of early childhood care and education programs from birth to age eight in a multicultural setting. Students will participate in a practicum at three different sites serving children age's birth to three, three to five years old, and five to eight years old.

ECM-195/295 (1 – 3) Topics in Early Childhood Multicultural Education

This course addresses a variety of emerging themes in the field of early childhood multicultural education. The course content varies each semester so the course may be repeated for credit with differing section numbers. The course is offered according to need, interest, and demand.

ECM-304 (4) Integrated Curriculum: Birth through Age 4 (Pre-K)

This advanced course focuses on developmentally appropriate content, learning environments, and curriculum implementation for children birth-Age 4. It emphasizes integration of content areas (the arts, literacy, math, health/emotional wellness, science, social studies, motor, and adaptive living skills,) and the development of rich learning environments for infants, toddlers, and preschool children.

ECM-310 (3) Research in Child Growth, Development, and Learning

This advanced course in child growth, development, and learning builds upon the foundational material covered in the basic course in children growth, development, and learning. An integration of major theories of child development is provided by focusing on contemporary research in all aspects of development, including bio-ecological, social-affective, cognitive-learning, language-cultural, and methodological aspect of research in early childhood development and education. This course focuses on preparing early childhood professional to use empirically-based research to inform their teaching of young children as well as preparing teachers to be researchers in their own classrooms.

ECM-316 (3) Family, Language, and Culture

This course analyzes the interrelationships between family, language, and culture and connected to children's development and learning. In this course language is understood as a human activity and higher mental process which build on the children's families, community, and cultural background. Language conceived as human activity must be examined through an understanding of dialogue, because dialogue is a way of promoting positive relationships between home, school, and community, partnerships. In the course of these collaborative partnerships, is vision for a better world and well-being

for young children will emerge and concretize in a culturally and linguistically responsive pedagogy.

ECM-318 (4) Teaching and Learning: Math and Science

The focus of this advanced curriculum course is on the standards, principles, and practices in teaching mathematics and science to young children in preschool through grade 3. An emphasis is placed on developing a content –rich integrated math and science, curriculum that focuses on children's development and interests, includes appropriate content, process, environment, and material with an emphasis son problem-solving as the major means of constructing basic concepts. Field experiences, required.

ECM -325 (3) Emergent Literacy

This advanced course is designed to prepare early childhood professional to study literacy development, specifically oral language, writing and reading. This course focuses on children from birth through Pre-K, including children with diverse abilities. Through a developmental approach, the course addresses: 1) recent theory and research that translate into practical strategies, assessment materials, and preparation of literacy rich environments, 2) the socio-cultural context in which children develop literacy, 3) culturally, linguistically and developmentally appropriate literacy curricula, 4) process used to determine the appropriateness of various literacy strategies, 5) assessment, evaluation, and accountability, and 5)literacy leadership.

ECM-340 (2) Young Children with Diverse Abilities

This course builds on the broad knowledge gained in previous coursework. It provides a specific focus on educational policies, programs, practices, and services appropriate for infants, toddlers, preschoolers, and early primary children who exhibit delays and disabilities. The course will provide a means toward a deeper understanding and sensitivity to the needs and feelings of children with diverse abilities and their families. The foundation include research of young children their families, cultural sensitivity and competence, and activity-based interventions. Legal requirements of educating the child with disabilities or other special needs will be identified.

ECM-350 (3) Advanced Caregiving for Infants and Toddlers

The advanced field-based course is intended to focus students in defining and implementing developmentally appropriate elements of quality programming for infants and toddlers in safe, healthy, responsive, and caring environments. The experiences in the approved setting will emphasize strong nurturing relationships, cultural competence, recognition of diverse learning needs and styles of every child, appropriate guidance techniques, and partnership with the families, culture, and community

represented. Students are assisted through the course in advancing their ability to observe, discuss, and implement element of quality programming for infants and toddlers in the home, small-group, or while-group care situation.

ECM -428 (3) Teaching and Learning: Reading and Writing

The foundation of this course is an understanding of the reading process including the relationship between reading, writing, listening, and speaking: individual needs and abilities in reading instruction: and how to organize classrooms and select materials to support literacy development. Concepts of phonemic awareness, phonics instruction, vocabulary development, fluency, and comprehensions are integrated with the use of developmentally appropriate authentic assessment techniques, language/literacy immersion, and multicultural children's literature.

ECM-438 (3) Teaching and Learning: Social Studies, Fine Arts, and Movement

The course focuses on the aims, scope, and integration of methods of teaching social studies, the fine arts, and movement across the curriculum. This course emphasizes an integrated approach to teaching the "what and why" of social studies: assessing student learning: planning units, lessons, and activities: developing effective instructional strategies: and acquiring knowledge of social studies content. Concepts of expressive art include the visual arts, music, movement, and dramas.

ECM-490 (2) Teaching and Learning Practicum

The field practicum is a co-requisite course with Teaching and Learning Reading and Writing; Teaching and Learning Math and Science; Teaching and Learning Social Studies, Fine Arts, and Movement. The field based component of this set of courses will provide experiences that address curriculum content and practice teaching that is relevant for children birth to age 4 in developmentally and culturally sensitive ways.

ECM-492 (2) Student Teaching Practicum

This course provides opportunities for students to apply knowledge gained from Curriculum Development and Implementation II and develop skills in planning learning environments and implementing curriculum in programs serving young children from birth through age eight, including young children with special needs, linguistic and cultural needs. Students will understand and implement the Diné Philosophy of Education. Learning experiences will cover all content areas, including literacy, math, science, social studies, health/wellness, the arts, and adaptive skills for children, birth through age eight.

ECM-493 (3) Student Teaching Seminar

This seminar will give students an opportunity to work with a faculty member and focus on knowledge gained from course, classroom experiences, and interaction with others. Students will use practical experiences and observations from the semester long teaching assignment and further develop skills in planning learning environments and implementing curriculum in programs serving young children from birth through age four including young children with special needs, linguistic and cultural needs. Students will implement the Diné Philosophy of Education. Learning experiences will cover all content areas, including literacy, math, science, social studies, health/wellness, the arts, and adaptive skills for children, birth through age eight.

ECM-495 (9) Student Teaching

This semester long teaching will offer students an opportunity to apply knowledge and skills gained from classroom learning, theories, practicum, internships, and experiences from the program. Students will work with a faculty member who will guide, offer reflections, and feedback on experience. Students in the program will be placed at school sites according to their particular concentrations and particular to the area they plan to receive certification. Students will apply the Diné Philosophy of Education. Learning experiences will cover all content areas, including literacy, math, science, social studies, health/wellness, the arts, and adaptive skills for children, birth through age four.

ECONOMICS

ECN-111 (3) Introduction to Economics

This course introduces the theories, history, and relationships of economics. An introduction to principles of economics will focus primarily on the forces that drive the economy. A brief discussion about consumption, production, pricing, and employment will be included. In addition, an overview of monetary and fiscal policies will be covered. At the conclusion of the course, students will be able to identify economic causes for various political and social problems at the national and international levels.

ECN-195 (1 – 3) Topics in Economics

This course addresses a variety of emerging themes in the field of economics. The course content varies each semester so this course may be repeated for credit with differing section numbers. The course is offered according to need, interest, and demand.

ELECTRICAL ENGINEERING

EE-101 (3) Electrical Engineering Fundamentals I

Introduction to fundamentals of electrical engineering theory and practice. This course covers the foundations of engineering problem solving and other skills necessary for success. Students will be taught engineering practice through hands-on approaches. Students will learn basic electrical elements (resistors, capacitors, and inductors),

power sources, Ohm's law and Kirchhoff's law.

EE-102 (3) Electrical Engineering Fundamentals II
In depth study of electrical theory, analysis and design of electric circuits. This course builds upon the basics presented in EE-101 Electrical Engineering Fundamentals. Resistive networks will be discussed in-depth and solved using node and loop analysis. Operational Amplifiers and applications will be introduced. First and second order circuits will be touched on. *Prerequisite: EE-101 & MTH-162 or MTH-105*

EE-103 (3) Digital Logic Design
A first course in digital logic design. Data types and representations, Boolean algebra, state machines, simplification of switching expressions, and introductory computer arithmetic. Design will include traditional schematic design methods and an introduction to hardware description languages such as VHDL and Verilog. *Prerequisite: EE-101*

EE-195/295/395/495 (1 – 3) Topics in Electrical Engineering
Topics courses will address a variety of subjects in emerging areas of Electrical Engineering. Different section numbers indicate different topics so these courses may be repeated for credit if section numbers and topics are different. Only six hours of Topics can be counted towards the B.S.E.E. degree. Courses are offered according to need, interest, and demand.

EE-196 (1 – 3) Freshman Research Project
Freshman level individual or team project under EE faculty direction and guidance. This project provides early student entry into EE hands-on project activity providing practical skills, EE subject exposure and experience. Second semester freshman standing is required. Requires consent by EE faculty mentor and department chair. Different section numbers indicate different topics so these courses may be repeated for credit if section numbers and topics are different. The research courses can be used to clear deficiencies encountered by transfer students and caused by curriculum changes. Freshman Project cannot be counted towards a concentration elective in the B.S.E.E. degree. Courses are offered according to need, interest, and demand.

EE-201 (3) Electrical Engineering Fundamentals III
Sinusoidal steady-state analysis and phasors. This course builds upon the basics presented in EE-102 Electrical Engineering Fundamentals II. Application of circuit analysis techniques to solve single-phase and three-phase circuits including power, mutual inductance, transformers and passive filters. *Prerequisite: EE-102 & MTH-163 or MTH-105*

EE-202 (3) Electrical Engineering Fundamentals IV
Laplace transforms, Fourier series, Bode plots, and their application to circuit analysis. This course is a continuation of EE-201 Electrical Engineering Fundamentals III. *Prerequisite: EE-201 & MTH-310 or MTH-105*

EE-203 (3) Electronics I
This course will cover fundamental device characteristics including diodes, MOSFETs and bipolar transistors; small- and large-signal characteristics and design of linear circuits. Linear integrated circuitry including Operational amplifiers (Op-Amp) applications and theory will be covered extensively. *Prerequisite: EE-201, Co-requisite: EE-202.*

EE-212 (2) Instrumentation I
This class introduces students to fundamental laboratory practices and the use of test equipment to measure basic electrical components, DC/AC circuits using ohmmeters, voltmeters, ammeters and oscilloscopes. Units, systems of units and standards will be covered extensively.

EE-223 (3) Semiconductors I
This course will introduce students to the operation and fabrication of semiconductor devices. A study of semiconductor fundamentals and physics of semiconductor devices to include: properties of materials and devices used in electrical engineering; theory of operation of semiconductor devices; p-n junction diodes, bipolar transistors (n-p-n and p-n-p), and field-effect devices. *Prerequisites: CHM-120, EE-203*

EE-230 (3) Introduction to VDHL and FPGA
The goal of the course is to introduce digital design techniques using field programmable gate arrays (FPGAs). This course will cover FPGA architecture, digital design flow and other technologies associated with field programmable gate arrays. The course will involve an extensive amount of labs and projects which will give the students hands-on experience on designing digital systems on FPGA platforms. *Prerequisite: EE-103*

EE-296 (1-3) Sophomore Research Project
Sophomore level individual or team project under EE faculty direction and guidance. The project provides design experience and develops practical skills. Repeatable. Pre: sophomore standing or consent. Requires consent by EE faculty mentor and department chair. Different section numbers indicate different topics so these courses may be repeated for credit if section numbers and topics are different. The research courses can be used to clear deficiencies encountered by transfer students and caused by curriculum changes. Sophomore Project cannot be counted towards a concentration elective in the B.S.E.E. degree. Courses are offered according to need, interest, and demand.

EE-301 (3) Signals & Systems
Analytical techniques for continuous-time and discrete-time signal, system, and circuit analysis. *Prerequisite: EE-202*

EE-302 (3) Electromagnetic Fields and Waves
This course will introduce students to static electric and magnetic fields, time varying electromagnetic fields and Maxwell's equations from an engineering aspect. *Prerequisite: EE-202, PHY-122 or MTH-105*

EE-303 (3) Probability and Random Signals
Introductory discrete and continuous probability concepts, single and multiple random variable distributions, expectation, introductory stochastic processes, correlation and power spectral density properties of random signals, random signals through linear filters. *Prerequisite: EE-301, MTH-310*

EE-304 (3) Energy Systems & Power Electronics
Three-phase circuits, renewable and conventional energy supply systems, synchronous generators, transformers, induction and DC machines, power electronics for motor speed control and rectification, per unit systems and power system representation. *Prerequisite: EE-302*

EE-310 (3) Embedded System Design
Implementation of embedded computer systems focusing on the development of hardware and software for an embedded microcontroller system. Topics include: (i) internal microcontroller architecture, (ii), interfacing peripheral devices, (iii) mixed analog and digital systems, (iv) hardware and software implementation of several systems using a microcontroller and peripherals. *Prerequisite: EE-103*

EE-312 (2) Instrumentation II
This laboratory course covers computer-based instrumentation systems such as Labview and Matlab for applications in electrical engineering. Students will learn how to design computer-based instrumentation systems and will conduct engineering experiments to demonstrate their skills. *Prerequisite: EE-203, EE-212*

EE-313 (3) Summer Internship
Students will work part-time to full-time in an electrical engineering related industry. The internship must be approved by the instructor and students will be required to make written reports and prepare oral presentations to appropriate classes as assigned by the instructor.

EE-320 (3) Instrumentation & Process Control
Introduction to the feedback control problem. Modeling and analysis of linear continuous systems in time and frequency domains. Fundamentals of single-input-single-output control system design. Stability criteria. Nyquist and root-locus design. Introduction to analytical design. Z-transforms and digital control. Laboratory design

project. *Prerequisite: EE-212, EE-301*

EE-330 (3) Computer Org. & Assembly Language Programming
Introduction to computer organization, how major components in a computer system function together in executing a program, and assembly language programming. *Prerequisite: EE-230*

EE-343 (3) Introduction to VLSI Design
This course provides an introduction to VLSI (Very Large Scale Integration) systems by examining basic CMOS logic circuits and VLSI design styles. VLSI architectures and current trends in chip design are investigated. Students will work in groups on a project specific to the function of a large digital system and lay out its physical design, and verify and debug its digital behavior. Students will be introduced to modern Computer-Aided Design (CAD) software. *Prerequisite: EE-223*

EE-370 (3) Electrical Machinery
Operating principles and modeling of different types of electric machines including DC, brushless DC, induction, permanent magnet and conventional synchronous machines; control aspects of these machines within modern electric drives for applications such as industry automation, energy conservation through variable speed drives, wind generators and electric vehicles. *Prerequisite: EE-302*

EE-396 (1-3) Junior Research Project
Junior level individual or team project under EE faculty direction and guidance. The project provides design experience and develops practical skills. It may be a continuation of EE 296 or a new project. Repeatable. Pre: 296 and junior standing or consent. Requires consent by EE faculty mentor and department chair. Different section numbers indicate different topics so these courses may be repeated for credit if section numbers and topics are different. The research courses can be used to clear deficiencies encountered by transfer students and caused by curriculum changes. Junior Project can be counted for up to three hours concentration elective in the B.S.E.E. degree. Courses are offered according to need, interest, and demand.

EE-403 (3) Digital VLSI
The course will cover design methodologies of Very Large Scale Integrated (VLSI) circuits that are seen in the industry. There will be a brief review of integrated Complementary Metal Oxide Semiconductor (CMOS) device basics. The fundamentals of device configurations in circuits, and its logic circuit building blocks (inverters, latches, etc.) will also be covered. This course will be largely based on a design project in which the students will design, analyze, and optimize a small CMOS circuit. *Perequisite: EE-343*

EE-406 (3) Computer Networks
Internetworking, unicast and multicast routing, congestion control, network quality of service, mobile networking, router architectures, network-aware applications, content dissemination systems, network security, and performance issues. *Prerequisite: MTH-205*

EE-407 (3) Communications Systems
Communication System Components, Communication media, Channel capacity and noise, Modulation and Demodulation, Sampling, Aliasing and Interpolation, Correlation and Spread-Spectrum CDMA, Pulse Shaping and Eye Diagrams, Matched Filtering, Carrier Recovery and PLL, OFDM and MIMO, Equalization. (Labs and projects) *Prerequisite: ECE-303*

EE-413 (3) Analog VLSI
This course will examine the design methodologies of very large scale integration (VLSI) analog circuits. Students will work on group projects and perform computer simulations to design, analyze and test analog circuits. *Prerequisite: EE-343*

EE-423 (3) Capstone Design
An extended team design project to expose students to problem situations and issues in engineering design similar to those encountered in industry. (Writing Intensive Course) *Prerequisite: IE-380 & Senior Standing.*

EE-430 (3) Computer Architecture and Design
Computer architecture using processors, memories, and I/O devices as building blocks. Issues involved in the design of instruction set architecture, processor, pipelining and memory organization. Design philosophies and trade-offs involved in Reduced Instruction Set Computer (RISC) architectures. *Prerequisite: EE-230*

EE-440 (3) Operating Systems I
Introduction to operating systems using UNIX as the case study. System calls and utilities, fundamentals of processes and interprocess communication. *Prerequisite: EE-430*

EE-460 (3) Electrical Power Plants
Generation of electric power using fossil, nuclear and renewable, including solar, geothermal, wind, hydroelectric, biomass and ocean, energy sources. Power plant thermal cycle analysis. Cogeneration and combined cycles. Economics, operations, and design of electric power stations. Energy storage. *Prerequisite: EE-304*

EE-470 (3) Electric Power Devices
Analyzes devices used for short circuit protection, including circuit breakers, relays, and current and voltage transducers. Protection against switching and lightning over voltages. Insulation coordination. *Prerequisite: EE-304*

EE-471 (3) Power System Analysis
Review of transmission line parameter calculation. Zero sequence impedance, symmetrical components for fault analysis, short circuit calculation, power flow analysis, power system stability, and power system control concepts. *Prerequisite: EE-460*

EE-472 (3) Power Electronics and Power Management
Principles of switch mode power conversion, analysis, design and control of dc-dc converters, PWM rectifiers and inverters, power management, power electronics applications in information technology, renewable energy systems, motion control and lighting. *Prerequisite: EE-470.*

ELECTRICAL TRADES

ELC-101 (4) Electrical Level I
This course includes theory of electricity, electron theory of current, resistance and voltage, conducting and insulating materials, electron magnetic induction, circuit fundamentals, series circuits, parallel circuits, voltage drops, safety and grounding, bonding, wiring systems, and correct use of tools and equipment. All practical applications will follow New Mexico and National Electrical Codes. *Prerequisite: CT -103*

ELC-102 (2) Electrical Trades Lab I
Lab I instruction will include additional practical wiring applications such as non-metallic, single-pole, three- way and four-way switches, duplex receptacles, lamps or fixtures, ground fault circuit interrupter, small appliance circuits, electric range circuits, and electric dryer circuits. This course is for students who wish to obtain an Electrical Trades Certificate and is not a required course for students working toward their A.A.S. in Energy Systems. Installation will be in accordance with New Mexico as well as national electrical codes. *Prerequisite: CT -103 Lab fee: $125.00*

ELC-111 (4) Commercial Wiring
Advanced instruction in the study of electricity will be covered. Areas of instruction will include safety and grounding essentials, wiring systems, device wiring, branch circuits, service entrance components, service locations, service rating, sizing services, power disturbances, building categories and service schemes, low voltage, basic motor control, mobile home service, and light commercial wiring. Hands-on applications are included and will follow the National Electrical (NEC) to determine correct procedures in installation, fabrication, design, and teasgin of electrical equipment. *Prerequisite: ELC-101and CT -103.*

ELC-112 (2) Electrical Trades Lab II
This is a continuation of Electrical Trades Lab I. This course is designed to us e various raceways such as electrical metallic tubing and rigid metal conduit in construction. Students are taught how to use benders and

the computations and placement of conduit for fabrication and installations. Supervised work-experience/internship will enhance students' abilities in problem solving and allow them to gain knowledge and experience in the installation of wiring protection, wiring methods, materials, and equipment during for general use electrical work. The National Electrical Code will be used to determine correct procedures in the installation, fabrication, design, and testing of electrical equipment. This course is for students who wish to obtain an Electrical Trades Certificate and is not a required course for students working toward their A.A.S. in Energy Systems. *Prerequisite: ELC 102. Lab fee: $125.00*

ELC-113 (4) Residential/Commercial Blueprint Reading
Basic instruction is provided in reading and interpreting blueprints and specifications. Emphasis is on terminology, symbols, notations, scaling, dimensions, and basic blueprint drawing techniques. Construction methods, materials, and structural support of residential, commercial, and industrial building are also covered. Lab instruction will facilitate student knowledge to determine correct sizing, placement, and design of electrical components in residential and light commercial buildings. Load calculations include computed load for general lighting, small and large appliances, air conditioning, heating, and space heating. The National Electrical Code (NEC) book will be used to ascertain pertinent rules, explanatory data, tables, and examples.

ELC-195 (1 – 3) Topics in Electrical Trades
This course presents a variety of emerging technologies, and applications of those technological improvements, in the electrical trades. Course content varies each semester so the course may be repeated for credit with differing section numbers. The course is offered based on demand, need, and interest.

ENGLISH

ENG-098 (3) Reading and Writing Skills
This course teaches vocabulary and grammar skills in addition to strengthening reading comprehension. Other strategies like skills-based exercises, reading silently and aloud, and writing exercises will be applied with the focus are on improving both written and oral communication skills. Using lecture, lab, and individual tutoring, students will learn to read and understand a variety of diverse texts and draft short essays using differing rhetorical forms. Successful completion of this course involves participation in class lectures, occasional computer lab work as assigned, and individual tutoring if necessary.

ENG-105 (3) Applied Technical Writing
This course focuses on a variety of on-the-job

communication skills such as writing memos and business letters, creating specific sets of instructions, preparing short reports, designing visual aids, and developing effective job search strategies including preparing resumes, writing letters of application, conducting online job searches, improving interview skills, and creating a job search timeline. In addition, students will be introduced to basic research skills for conducting Internet and library research and learn how to credit their research sources using accepted reference styles such as APA and/or MLA. An oral presentation skills component is also included as well as a number of informal opportunities to improve speaking skills. *Prerequisite: A grade of C or higher in ENG-098 or satisfactory placement scores.*

ENG-110 (3) Freshman Composition
This course is designed to refine reading, writing and analytical skills through a wide variety of literary offerings, and includes the completion of a series of essays. Vocabulary expansion and a review of English grammar and mechanics are incorporated components of this course. Students will be introduced to basic research skills for conducting Internet and library research and learn how to credit their research sources using accepted reference styles such as APA and/or MLA. Opportunities to practice and improve oral communication skills will also be incorporated throughout the course. *Prerequisite: A grade of C or higher in ENG-098 or satisfactory placement scores.*

ENG-111 (3) Composition and Research
This course further develops the skills learned in ENG 110 with an added focus on research techniques and writing that require the use of the MLA documentation style as the primary style of documentation (APA and Chicago documentation styles will also be addressed briefly). A further review of English grammar and mechanics is included as well as opportunities for oral communication skills enhancement. *Prerequisite: A grade of C or higher in ENG 105 or ENG 110.*

ENG-112 (3) Technical Research and Writing
This college-level research writing course focuses on APA documentation style (MLA and Chicago documentation styles will also be briefly discussed) to produce technical writing designed specifically for workplace and designated professional goals. Students will learn several phases of a major project including surveys, field reports, reporting laboratory experiments, and creating final written and oral presentations. Students learn how to design, edit, proofread, publish, and present their projects. *Prerequisite: A grade of C or higher in ENG-105 or ENG-110 or an equivalent course.*

ENG-150 (3) Introduction to Literature
This introductory survey course emphasizes the appreciation of poetry, short stories, drama, and the

novel. This course may be taken to fulfill the general education Humanities requirement. *Prerequisite: C or higher in ENG-110 or permission of instructor. This course may not be offered every semester.*

ENG-155 (3) Creative Writing
This course is composed of writing, writing, writing, and creativity. Students will study advice from well-known writers on how to live in the writing life, practice many writing techniques, study character development in fictional and non-fictional writing, and begin to peel away layers of emotional defense that may keep us from writing authentically. The course may be taken to fulfill the general education Humanities requirement or simply for the fun of writing creatively. *This course may not be offered every semester.*

ENG-160 (3) Native American Literature
Students in this course will look at a cross-section of Native American literature focusing on contemporary fiction. Students will explore issues relevant to the study of Native American literature and to other literature in general. In addition, the course will attempt to broaden the student's understanding of literary devices, while exploring the voices of Native people in the twenty-first century. This course may be taken to fulfill the general education Humanities requirement. *This course may not be offered every semester.*

ENG-161 (3) Comparative Ethnic Literature
This course is a survey of ethnic literature featuring African, Asian, Native American, and Latin writers. Themes that will be covered include cultural identification, celebrations and rituals, the role of an oral tradition and its transmission and transformation in written works, stylistic innovations, the use of language, and exploration of the authors as individuals and members of a community. This course may be taken to fulfill the general education Humanities requirement. *This course may not be offered every semester.*

ENG-195/295 (1 – 3) Topics in English Studies
This course focuses on a variety of topics in the field of English such as screen writing, magazine article writing, gender or author specific writing, and other related areas. Course content varies each semester so the course may be repeated for credit with differing section numbers. The course is offered according to need, interest, and demand.

ENG 201 (3) Beginning Fiction Writing
This introductory course builds on the basic concepts introduced in ENG 155 (Creative Writing) and concentrates on the writing of prose fiction. Students are introduced to the basic elements and techniques of the successful short story. Process is emphasized. Students read, write, and discuss fiction. One draft is work-shopped. *Prerequisite: ENG 155*

ENG 202 (3) Beginning Poetry Writing
This course is an introduction to the basic elements of the art of poetry. Students will learn how to scan lines for meter and rhythm, learn to analyze in detail the use of figures such a metaphor, metonymy, personification, allusion, and identify and appreciate techniques of sound and structure. Students will explore and discuss figures of logic like irony, parody, allegory and perspective. Students will learn to understand and appreciate the human condition through the voices and poems of diverse people. *Pre-requisite ENG 155*

ENG 203 (3) Beginning Writing for Stage & Screen
This introductory course, writing for the Screen and Stage I, is first in a three-part series of courses related to the craft of writing scripts for the screen and stage. Students will be introduced to paradigms for playwriting scripts and the motion picture screenplay structure. Students will also be introduced to the basic elements of playwriting. Students will study concepts developed by successful scriptwriters and playwrights, both Native and non-native. Students will practice scriptwriting techniques and explore concepts of character development while crafting the first twenty pages of a full length script for either the stage or the screen.

ENG 205 (3) Contemporary Navajo Literature
While the Navajo people have always had a deep appreciation for the power and beauty of language, as reflected in the songs, prayers and stories that have sustained them through untold generations, it is not until recently that a number of Navajos have begun to write and publish widely in a number of different genres. Some of those writers are now attracting critical attention and winning prestigious literary prizes. This course will introduce students to some of those Navajo writers and their works. Some of the major themes, issues, and concerns that these writers share as a focus of their work will be discussed, as well as the new and still-evolving role of the writer in contemporary Navajo culture.

ENG 301(3) Intermediate Fiction Writing
This intermediate course builds on the concepts introduced in 200, and emphasizes workshop critiques of student drafts. Focus on workshop vocabulary, strategies for revision, and reading as a writer. Writing intensive: drafting, work-shopping, and revising. Students publish one story on the class website. *Prerequisite: ENG 200*

ENG 302 (3) Intermediate Poetry Writing
This intermediate course builds on the concepts introduced in ENG 200 and introduces students to modern forms and techniques. Focus on the process of writing poetry, taking risks and developing voice, and using the critical vocabulary to critique constructively. Emphasizes writing as a reader and incorporates the workshop critique of student's drafts. *Pre-requisite: ENG 200*

ENG 303 (3) Intermediate Writing for Stage & Screen
This course, writing for the Screen and Stage II, is second in a three-part series of courses related to the craft of writing scripts for the screen and stage. Students will analyze three scripts using techniques introduced in the prerequisite to this course (Writing for the Screen and State I). Paradigms for playwriting scripts and the motion picture screenplay structure will be applied as students continue crafting film and stage projects. The basic elements of playwriting will be expanded and students will apply techniques and concepts developed by successful native and non-native scriptwriters and playwrights. Students will also become proficient in script writing techniques, explore concepts of character development and continue developing their scripts using industry approved software.

ENG 304 (3) Creative Non-Fiction
This course builds on the basic concepts introduced in ENG 155 and concentrates on the writing of non-fiction prose such as the personal essay, the memoir, and invented forms. Emphasis on the crafting compelling and creative narratives derived from personal experience, insight, and vision. Expands to include an exploration of techniques of creative non-fiction such as prosody, exposition, descriptive detail, and narrative voice.

ENG 401 (3) Advanced Fiction Writing
This course is an advanced workshop for students who have mastered the fundamentals of short story writing. Strong emphasis on discussion and revision. Combines formal workshop critique with study of published authors and some theory. Students are acquainted with the process of publishing in print and electronic forms. (Prerequisite: ENG 300)

ENG 402 (3) Advanced Poetry Writing
This course is an advanced workshop for students who have mastered the basic elements and techniques of poetry and are concentrating on poetry writing. Emphasis on intensive discussion and revision. Combines formal workshop with study of published authors and some theory. Students are acquainted with the process of publishing in print and electronic forms.

ENG 403 (3) Advanced Writing for Stage & Screen
This course, writing for the Screen and Stage III, is the final part in a series of courses related to the craft of writing scripts for the screen and stage. Students will have mastered paradigms for playwriting scripts and the motion picture screenplay structure. Students will have mastered the basic elements of playwriting. Students will know the concepts developed by successful scriptwriters and playwrights, both Native and non-native. Scripts for the screen/stage will be completed and the best practices for writing techniques and concepts of character development will be mastered and apparent in full-length film/stage scripts created using software that meets the industry's standards. An Environmental Scan of the Theater and Motion Picture industry will be required. Students will master the concepts of script writing techniques and explore concepts of character development. The course will include The Writer's Table Workshop where students will give and receive peer feedback and participate in storytelling, including the Oral Tradition.

ENG 404 (3) Creative Writing Thesis
This course enables third-year Creative Writing majors to select, edit, revise, refine and complete a thesis portfolio that contains a collection of polished work in the genres of their choice (poetry, fiction, writing for creative nonfiction, scriptwriting) written during their first and second years. There will be a review of technical terms and trends in contemporary poetry, fiction and drama to insure a sound knowledge of literature. The process will be undertaken with the guidance of a faculty member chosen by the student. (Prerequisite: Major in creative writing and third-year standing)

ENG 405 (3) Student Anthology
This course is an introduction to the process of producing an anthology of writing. Students collaborate with faculty and peers to learn to select, edit, design and publish a collection of creative work in print and electronic form. Students critique and evaluate submitted work and oversee all aspects of production.

ENGINEERING

ENGR-103 (3) Introduction to Engineering
This course introduces the students to the engineering profession, ethics, engineering tools, and future trends. The students will work in team projects as well. The student will have a sound understanding of the engineering field and will have begun the mastery of the basic knowledge and skills required for all engineering fields offered at Navajo Technical University. *Prerequisite: MTH121.*

ENGR-123 (3) Computer Skills for Engineering
This course reviews the use of fundamental operations and features of the Microsoft Windows operating system. A set of projects are assigned to utilize the most commonly used features of Word, Excel, and PowerPoint (or other presentation software) and to introduce other features which are important to engineering analysis and related report generation. The basic capabilities of Matlab are utilized to perform calculations to generate graphs and to solve equations, as well as to organize and document solutions to a variety of engineering analysis problems.

ENGR-130 (3) Engineering Graphics
In this course the basic principles of Engineering Graphics, blueprint reading and geometric constructions are reviewed. Multi-view projections and 3D

visualization, and basic dimensioning are introduced. This course is intended for but, not restricted to, on-line delivery. The course also introduces students to solid modeling and basic methods of rapid prototyping including 3-D printing.

ENGR-143 (3) Characteristics of Engineering Materials
This course introduces the basic features of materials and selected methods of Classification of Materials. Topics include Nature of Materials, Types of Materials, Scale of Materials, Properties of Materials, Application of Materials, Processing of Materials, and Characterization Methods for Classification of Materials.

ENGR-169 (3) Basic Statistics and Probability
This course will introduce students to Descriptive Statistics, presentation of Statistical Data and the field of Probability. Probability will include manipulation of probabilities and conditional probabilities. Discrete distributions, Continuous distributions and Joint probability will also be covered. *Pre-requisite: MTH-120.*

ENGR-230 (3) Advanced Engineering Graphics
This course will use 3-D mechanical software to explain proper solid modeling techniques used for rapid prototyping, analysis, and other applications which require 3-D models. The students will learn the 3-D tools and techniques used by NASA and contractors such as Lockheed Martin, Aerojet, Boeing, and others. *Pre-requisite: ENGR-130.*

ENGR-234 (3) Inferential Engineering Statistics
Hypothesis testing for single samples and more statistical distributions can be discussed. Understanding of ANOVA and regression can be incorporated which has not been extensively a part of this course in the past. *Prerequisite: MTH-121 & ENGR-169.*

ENGR-236 (3) Inferential Engineering Statistics
The new ENGR-236 Inferential Engineering Statistics will have more time can be spent on Hypothesis testing for single samples and more statistical distributions can be discussed. Understanding of ANOVA and regression can be incorporated which has not been extensively apart of this course in the past. Part of this change will be in switching to a new book which has more material and goes into more depth with examples and techniques not included in the present text; this book will be used for both courses. *Prerequisite: MTH-121& ENGR-169*

ENGR-313 (3) Engineering Economics
Topics covered include: cost and worth comparison, capital costs, time value of money, replacement economics, taxes, economic efficiency of alternate designs, minimum costs and maximum benefits, risk and uncertainty. Students will learn how to apply economics to engineering projects in order to ensure projects are feasible and efficiently designed and completed.

ENERGY SYSTEMS

ERS-102 (3) Photovoltaic Theory & Design
An overview covers photovoltaic modules, mounting, controllers, batteries, inverters, load calculations, and water pumping. Solar site analysis will include azimuth angle, tilt angle, magnetic declination, and orientation. Students will learn how to design systems that complement module and energy storage. Understanding safe installations, which includes tool and equipment safety, conductor size, over-current protection, grounding, and NEC requirements will be stressed. Students will install photovoltaic systems and hardware. This course will enable student to interpret schematics to assess learning and to utilize the solar trailer and PV trainer donated to the school by Sandia National Laboratories. *Prerequisites: ELC101& MTH121*

ERS-104 (3) Electrical Mathematics
Electricity and electronics involve an invisible motion of electrons within electrical circuits. Computer -aided models and integrated mathematics will enable students to conceptualize events taking place in circuits. Practical math formulas used in the electrical field will be studied. Areas of study will also include unity of measurements, solving of Ohm's Law, voltage drop, and solutions to electrical math problems. Study of basic electronics will be introduced; terminology and the use of resistors, diodes, transistors, and capacitors will be included and hands-on electrical/electronic projects will enhance student learning. *Prerequisites: MTH113*

ERS-106 (3) Wind and Solar Power
This course will introduce students to the theory, design, and assembly of wind turbines, air collectors, and solar heating systems. Stand-alone, grid-tied, and hybrid systems will be covered. The study of wind resources, net metering, battery sizing and arrangement (series or parallel) will determine days of autonomy, wiring configurations, and inverter efficiency. Hands-on projects will include the fabrication of a 500 watt wind turbine, tower lifting, maintenance of a 2.5 KW grid-connected wind turbine, anemometers, and fabrication of a solar dryer designed to dry food. The course is designed to enhance and develop skills that are needed to meet the challenges of becoming a qualified renewable energy technician. *Prerequisites: ELC101 & MTH121*

ERS-114 (3) National Electrical Code (NEC) Exam Prep
This course will focus on preparation for the journeyman electrician exam. General information for learning methods on how to use the code, code arrangement, code enforcement, and code interpretations will be presented. Emphasis on code questions regarding wiring and protection, wiring methods and materials, equipment for general use and special occupancies, load calculations,

special equipment and conditions, communication systems, cross sections of conduit and conductors, and conductor properties will also be studied. A series of code research projects will enable students to be better prepared to obtain licensing by a governing board or agency. The use of computers and software will be included to enhance code research assignments. *Prerequisite: ELC101*

ERS-115 (4) Motor Controls
Classroom instruction and lab applications related to motor controls will be introduced. Installation of motors and control equipment, interpretation of symbols and schematic diagrams, start/stop pushbuttons, forward/reverse jogging controls, relays, sensors, and devices will be covered. Installations of conductors, raceways, and components of current protection will ensure students' confidence in performing similar work in the energy industry. An overview of programmable logic controllers will also be included. *Prerequisites: ERS102 & ERS106.*

ENVIRONMENTAL SCIENCE AND NATURAL RESOURCES

ENV-102 (4) Environmental Science I
This course introduces students to the broad field of Environmental Science. Topics covered in Environmental Science I include environmental problems and their causes, history of resource conservation, scientific modeling, matter and energy concepts, ecosystems and how they function, population dynamics, geological processes, and renewable and non-renewable energy resources. Required lab is included. *Prerequisites: BIO110 or CHM110. Lab Fee: $125.00*

ENV-182 (4) Environmental Science II
This course will cover advanced concepts and subjects within Environmental Science. Covered topics include air and water pollution, nuclear waste management and disposal, soil erosion, water management and the hydrological cycle, toxicology, minerals and soil properties, endangered species management, solid and hazardous waste, economics and politics in the environment, and environmental ethics. Extended field trips are scheduled for this course. Lab included. Prerequisite: ENV-102. *Lab Fee: $125.00*

ENV-216 (4) Fundamentals of Ecology with Laboratory
A study of the relationships among organisms and their environments, at several different levels and scales. This course provides an overview of the complex and diverse field of ecology, from the ecology of individual organisms and their adaptations to the environment, to the dynamics of populations and species interactions in ecological communities, and the intricacies of energy flow and nutrient cycling in ecosystems. Three lectures and one laboratory period. *Lab Fee: $125.00*

ENV-245 (4) Natural Resources I
This course will introduce the student to the management of natural resources. Topics covered include natural resource conservation, management, and resource protection. Flora and fauna surveys will be conducted to provide a field investigation experience. Endangered species conservation, protection, and mitigation will be covered. An extended field outing with assignments is required in this course. Lab included. *Lab Fee: $125.00*

ENV-289 (4) Natural Resources II
This course will provide a more in-depth study of natural resource use and management. Concepts to be covered in this course include forestry management techniques, watershed management, wildlife management, flora and fauna field identification and collection methods, dendrology, bird, reptile, and fish identification. An extended fishing outing with assignments is required in this course. Lab included. *Prerequisite: ENV-201. Lab Fee: $125.00*

ENV-255 (4) Introduction to Hydrology
This course is an introduction to the hydrological cycle and the processes of precipitation, evaporation, transpiration, runoff, and infiltration. Students will be able to describe the hydrologic cycle and understand the physical principles that govern groundwater and surface water hydrology. The course includes a laboratory component that allows students to gain field experience in measuring water levels in water wells, stream gauging, making indirect discharge measurements, and collect water-quality samples from sources of groundwater and surface water. *Prerequisites: MTH-121 and ENG-110.*

ENV-195/295 (1 – 3) Topics in Environmental Science and Natural Resources
This course focuses on a variety of emerging issues, technologies, and applications in the field of environmental science, including natural resource management, preservation, and development. Course content varies each semester so the course may be repeated for credit with differing section numbers. The course is offered according to need, interest, and demand.

ENV-312 (3) Summer Internship
This is not a course per se, it is a way for students to experience hands-on learning and gain experience in the area of science. There are several opportunities for students to gain this experience and may apply and accept internships with many different organizations. The student is required to have an internship that is at least 10 weeks in duration, lasting 40 hours per week, and the student is to submit weekly reports regarding the internship and, upon their return to campus, they are to present a 30 minute power point summary of the knowledge they gained in their internship experience.

ENV-350 (3) Environmental Law
This course covers the basic principles of law from how a bill becomes a law, the three branches of government and how they affect the development of laws, state and federal law jurisdiction, federalism, commerce clause, and the fundamental framework for law in the United States. This course also covers rulemaking, adjudication, enabling legislation, and how administrative agencies are created and how they can change their regulations. Lastly, the National Environmental Policy Act is covered and includes the Categorical Exclusion, Environmental Assessment, and the Environmental Impact Statement documents

ENV-365 (4) Natural Resources Management with Laboratory
This course is presented as an introduction into the field of natural resources management with many areas touched upon such as fisheries, forestry, soils, natural resource regulations and law, tribal natural resources management, and traditional perspectives of natural resources. Students will be exposed to the range of disciplines contributing to effective natural resources management and will learn of the variety of career options in the field. Three lectures and one laboratory period. *Lab Fee: $125.00*

ENV-395 (1) Special Topics in Environmental Science and Natural Resources
This course focuses on a variety of emerging issues, technologies, and applications in the field of environmental science, including natural resource management, preservation, and development. Course content varies each semester so the course may be repeated for credit with differing section numbers. The course is offered according to need, interest, and demand.

ENV-425 (3) Advanced Environmental Law
This course introduces some of the most important concepts, issues, and statutes in environmental law. After discussing the economic and ethical bases for environmental law and briefly reviewing the relevant principles of constitutional and common law, students examine a representative selection of federal statutes, including the National Environmental Policy Act, the Endangered Species Act, "Superfund," and the Clean Air Act.

ENV-464 (3) Capstone
Learn skills that prepare students for a career in the environmental science field. The class will be broken up into two parts, the first part will focus on resume writing, applying and interviewing for jobs/graduate school, and exploring career opportunities. The second part will focus on a senior project that will consist of writing an Environmental Assessment Draft for an existing or future project. Student will review literature and laws that must be considered in an assessment and determine the important components of as assessment including the Biological Evaluation, Archaeological Survey, and field flora and fauna of the proposed project site. This course will conduct an actual Environmental Assessment as a service learning project.

ENV-485 (3) Environmental Regulation Enforcement
This course covers the major environmental laws as they pertain to wildlife, natural resources, pollution, and environmental regulation and enforcement in the United States. The federal agencies responsible for regulation enforcement to protect these natural resources are covered including their respective responsibilities. Students will gain knowledge on how regulations are developed, amended, and enforced in the United States. Major laws covered include the National Environmental Policy Act, Clean Air Act, Clean Water Act, Endangered Species Act, Resource Conservation and Recovery Act, and environmental laws of the Navajo Nation.

GEOLOGY

GEO-101 (4) Principles of Geology
This course combines classroom discussion and laboratory study. It is offered for anyone with a desire to understand more earth processes such as rock formation, mountain building, volcanoes, and earthquakes. Areas of emphasis will be the geologic history of New Mexico and environmental issues such as mining, waste disposal, and groundwater contamination. Lab included. *Lab fee: $125.00.*

GEO-150 (4) Environmental Geology
This course combines classroom discussion and laboratory study. The course emphasizes the environmental geology of the Navajo Nation and New Mexico. Issues such as mining, waste disposal, rockslides, soil contamination, power plants, and ground water depletion and contamination are topics of discussion in the course. Emphasis is placed on a hands-on, problem-solving approach to today's issues and the course usually involves field trips around New Mexico and Colorado as part of the included lab study. *Lab fee: $125.00.*

GEOGRAPHIC INFORMATION TECHNOLOGY

GIT-105 (3) Fundamentals of Cartography
This course covers the design, purpose, use, and proper development of maps. Concepts covered include mapping with online Geographic Information System (GIS) software, vector vs. raster data, and history of mapmaking, the map design process, the legend editor, classification in the legend editor, palettes, typography, map projections, scale, and layout. Upon completion of the course, students are able to understand the basic implementation of map design to produce quality maps. *Offered: Online*

GIT-110 (3) Geographic Information Systems I
This course introduces the hardware and software components of a Geographic Information System (GIS). Students will use GIS computer software to familiarize themselves with the functionality of using spatial data, thereby gaining an understanding of the concept of the points, lines, and polygons used to define GIS themes. Fundamental concepts of computer science will be introduced, providing the foundation of GIS knowledge that will be built upon in subsequent classes. *Prerequisite: MTH-121 Offered: Fall, Online*

GIT-111 (3) Geographic Information Systems II
In this course, the study of spatial analysis, raster processing, digital terrain modeling, map arithmetic, and advanced GIS structures will be studied through hands-on laboratory assignments designed to provide time for students to master these skills. Practical application of GIS software will be utilized. *Prerequisite: GIT-110 Offered: Spring, Online*

GIT-202 (4) Remote Sensing
This course introduces students to the fundamental principles of remote sensing, with specialized applications in the new technologies and GIS. The focus of the course is to help students understand the current state of knowledge in remote sensing. Lab included. Lab Fee: $125.00 *Prerequisite: MTH-121 Offered: Fall, Online*

GIT-207 (3) GIS Software Applications
This course is designed to explore the use of GIS in specific problem solving contexts. The goal is to enable students to recognize and define a geographic problem, apply methodologies that permit analysis of the problem, design a series based on analytical steps, and to finally implement a solution using GIS software. *Prerequisite: GIT-111 Offered: Fall, Online*

GIT-210 (1) Service Learning Project
This course provides students with the opportunity to apply knowledge and skills (learned in the Geographic Information Technology program) to a real world learning project. The project will be determined by the students and instructor and will be designed to enhance classroom and lab training through application in a worksite setting. *Prerequisite: GIT-111 Offered: Spring, Online*

GIT-220 (3) Database Query
Structured Query Language (SQL) is the standard for accessing data stored in relational databases. Students can become fluent in this indispensable language separately, but this class emphasizes the use of SQL to solve GIS problems by "thinking in SQL." The strategy is to teach syntax early and then concentrate on applying SQL to solve problems. The class includes a suite of hands-on lab exercises that reinforce the concepts and technology. At the completion of the lab work, students will have worked with all the major concepts and tools of SQL and will leave the course able to use SQL to retrieve data, create queries, generate reports, and program applications. Lab Fee: $125.00 *Prerequisite: GIT-111, IT-XXX Offered: Spring, Online*

GIT-195/295 (1–3) Topics in Geographical Information Technology
This course covers a variety of topics related to emerging issues and technological applications in the geographical information technology field. Course content varies each semester so this course may be repeated for credit with differing section numbers. The course is offered according to interest, need, and demand.

HISTORY

HST-210 (3) American History to 1877
This course is designed to provide students with a broad overview of American history up to 1877. The course explores the major social and political themes that have shaped the nation from pre-European contact to the era known as the Reconstruction following the Civil War. The class combines traditional topics with new scholarship covering social and cultural developments that have shaped the lives of the entire spectrum of the American people. In other words, this course looks at history from the bottom up as well as from the top down. This course may be taken to satisfy the general education Humanities requirement. *Prerequisite: C or better in ENG-098 or permission of the instructor.*

HST-211 (3) American History 1877 to Present
This course covers the history of the United States from the end of the Reconstruction to the present. The course combines traditional topics with new scholarship covering social and cultural developments that have shaped the lives of the entire spectrum of the American people. Sources include historical studies as well as extensive primary source documents in which the voices speak to the problems of the present. This course may be taken to satisfy the general education Humanities requirement. *Prerequisite: C or better in ENG-098 or permission of the instructor.*

HST-220 (3) History of the American Southwest
This course will consider the various nations that forged the rich, diverse heritage of today's American Southwest. In particular, the course will explore the Southwest in history as well as in legend. Frontier conflict will be a prominent topic in the course—people against people, culture against culture, various people against the land, and the land against people, the West against the East, and the West against itself. This course may be taken to satisfy the general education Humanities requirement. *Prerequisite: C or better in ENG-098 or permission of the instructor.*

HST-195/295 (1 – 3) Topics in History
This course focuses on a variety of topics in the field of history and history-related areas. Course content varies each semester so the course may be repeated for credit with differing section numbers. The course is offered according to need, interest, and demand.

HUMANITIES

HUM-160 (3) Global Cinema
This course will focus on a variety of foreign films. Students will view films from around the world, including, but not limited to, Europe, Russia, China, Asian Pacific, New Zealand, Australia, India, Africa, and South America. The basis of the course is viewing and discussing the films, although students will also be asked to define some themes as presented in individual films as well as themes that may be present in several films. Most of the films selected revolve in some way around human interaction and/or around the cultures the films are based upon. Students will be asked to write a number of papers that may include themes, comparisons, reactions or responses to the film as a whole or to some aspect of the film that may or may not be similar to their own experiences or belief systems.

HUM-170 (3) History of Native Americans in Media
This course is designed to allow students to examine the careers and lives of American Indians with a focus on the history of American Indians in Media. Media is a word which encompasses a broad range of topics. Students will explore issues through film, the spoken word, the written word and live performance which may be relevant to the historical significance of how American Indians are viewed. This also includes contemporary fiction/non-fiction writings, films, acting, theater performances, music and spoken word recordings; and radio and television broadcasting. In addition, the course will attempt to broaden the student's ability to analyze and evaluate oral and written communication in terms of situation, audience, purpose, aesthetics and diverse points of view, while exploring the voices of North American Indigenous Peoples. This course may be taken to fulfill the General Education Humanities requirement.

HUM-201 (3) Exploration of Different Cultures
This course explores various cultural world views as expressed through art, literature, music, and other forms of communication. The primary course covers humanity which becomes complete or whole with the balanced influences of the major cultures of the world. Each culture has something to offer to the others, though perhaps none have all the answers standing alone. Exploring cultures will take students on various cultures through whatever mediums available. Sharing of selections of writings, expressions, and practices will be used to help us understand different cultures.

HUM-195/295 (1 – 3) Topics in Humanities
Topics for this course may include art appreciation, artistic crafts, humanities, philosophy, comparative religion, music appreciation, theatre history, drama, and other related subjects. Course content varies each semester so the course may be repeated for credit with differing section numbers. This course is offered according to interest, need, and demand.

HUM 305 (3) Film History
This course explores the major film movements from 1895 to 1940, from the silent era to the advent of color film. Students will learn the fundamental forms of cinema as developed by Eisenstein and Griffith, while being introduced to the concepts of 'mise-en scene', montage editing, and expressionism and film noir. The work of numerous directors such as Chaplin, Murnau, Browning, Lang, Renoir, Hawks, and Ford & Capra will be explored. Students will become familiar with the history of cinema as informing and informed by culture, social history, emerging technologies and industry adaptations, and trends in visual art. Lectures and screenings are accompanied by assigned readings.

INDUSTRIAL ENGINEERING

IE-213 (3) Structure and Properties of Materials
The students will learn behavior of different engineering material under various conditions. Chemical, electrical and mechanical properties of material will be investigated. *Prerequisite: PHY101.*

IE-223 (3) Design and Manufacturing Processes I
An introductory course in manufacturing processes and systems will be covered. In addition, various manufacturing processes will be studied, including casting, forming, machining, and welding. Also, manufacturing systems such as industrial robotics and fundamentals of production lines will be covered. Students will develop hands-on skills through team projects. *Prerequisite: IE-213.*

IE-235 (3) Lean Production
This course will introduce the student to variations of the Toyota Production System as it is used in industry and business to improve efficiency and to build a problem solving culture in an organization. Topics will include: 5S, Value Stream Mapping, SMED, Kanban, Takt Time, Process at A glance and organizational culture change. Course will also compare other manufacturing philosophies and systems for manufacturing and production.

IE-243 (3) Strength of Materials
Stresses and stress, strain energy, elastic and plastic deformation will be discussed. The student will be able to understand how the strength of materials affects all industrial engineering applications. *Prerequisite: IE-213*

IE-312 (3) Summer Internship
Students will work part-time to full-time in a manufacturing related industry. The internship must be approved by the instructor and students will be required to prepare oral presentations to appropriate classes as assigned by the instructor.

IE- 323 (3) Human Factors in Product Design
Students will learn physical and psychological factors which affect human performance in system design. In addition, course material will cover performance as applied to safety, reliability, productivity, stress reduction. The human/equipment interface design will also be discussed. *Prerequisite: ENGR -234.*

IE-343 (3) Design and Manufacturing Processes II
This course will cover machining, process planning, blueprint reading, geometric dimensioning and tolerancing, and measuring instruments. The students will develop hands-on learning in team projects. *Prerequisite: IE-223.*

IE-363 (3) Design of Experiment
Analysis of variance for different types of factorial designs (single factor, nested, and random factors) will be discussed. Also, different factors during design of experiment, i.e., dependent, independent, and control variables will be explored. *Prerequisite: ENGR-234.*

IE 380 (3) Project Management
This course examines the organization, planning, and controlling of projects and provides practical knowledge on managing project scope, schedule and resources. Topics include project life cycle, work breakdown structure and Gantt charts, network diagrams, scheduling techniques, and resource allocation decisions. Concepts are applied through team projects and tutorials using project management software. *Prerequisite: Junior status.*

IE-413 (3) Quality Control
This course covers digital inspection utilizing computer-aided verification. Geometric dimensioning and tolerance control and basic size inspection will also be covered along with surface inspection and the basics of quality control. *Prerequisite: IE-363.*

IE-453 (3) Engineering Optimization
In this course data mining techniques and applications of operations research applied to financial engineering, site selection, and transportation will be learned. *Prerequisite ENGR-234 & MTH-163*

IE-463 (3) Facility Planning & Material Handling
Students will be able to learn how to plan a facility, location, layout models, design, analysis, supply chain relationships, and improvement of warehousing operations. Students will also study how to handle

materials within the context of planning and implementation of processes. *Prerequisite: ENGR-313.*

IE-424 (4) Capstone
The capstone course will provide the students an opportunity to utilize the skills gained from the previous semesters. Students will begin a semester project containing several elements of industrial engineering and manufacturing, including project management, 3-D modeling, and computer simulation. The will contain the research and planning of the project along with a project proposal complete with deliverables. Students will provide a project report, a final presentation and deliverables agreed upon in the project proposal. *Prerequisite: IE-223 & IE-343.*

IE-433 (3) Metrology and Instrumentation
Students will learn different types of measurement techniques, including laser scanning for computer-aided manufacturing and inspection, optical instruments, temperature, pressure, and force measurements. Medium to long range scanners and close range high quality scanners will be used in the course. Students will gain hands-on experience in capturing digital data, registering scan, and processing scans. *Prerequisite: IE-223.*

IE-473 (3) Inventory Control & Production Planning
In this course, manufacturing support systems and production planning are discussed. Different approaches to the planning of material and capacity as well as the differences between push system and pull systems and theory of constraint will be explored.
Prerequisite: ENGR -313.

IE-483 (3) Rapid Prototyping
Different methods of rapid prototyping processes used in product design will be introduced. The operating principles and characteristics of current and developing rapid prototyping processes will be discussed. *Prerequisite: IE-223.*

IE-484 (3) Computer Aided Manufacturing & Robotics
This course will introduce the use of computers as a tool to aid in manufacturing, distribution and service environments with computer numerically controlled machines, automated storage systems and robotics. *Prerequisite: CMP-101 & IE-234.*

IE-494 (3) Computer Simulation for Industrial Engineering
This course will introduce the use of computer simulation as a tool to create models of proposed physical systems for manufacturing or service environments to evaluate concepts and designs previous to their implementation. Students will learn to use one of the premier software packages to be able to create, evaluate and take descriptive statistics for use in assessing preliminary

designs and to give feedback on projects. *Prerequisite: ENGR-234*

INDUSTRIAL MAINTENANCE AND OPERATIONS

IMO-101 (5) Industrial Maintenance I
This course involves developing knowledge of fundamental skills of a certified industrial maintenance mechanic. Modules covered are Occupation Safety and Health Administration (OSHA) safety, construction math, introductory basic hand tools, basic power tools, basic construction drawings, basic rigging, communication skills, basic employability skills, and basic material handling.

IMO-102 (5) Industrial Maintenance II
The course involves developing a knowledge-based of fundamental skills required of certified industrial mechanics. Modules will include: orientation of trade, tools of the trade, fasteners and anchors, oxyfuel cutting, gaskets and packets, math, construction drawings, pumps and valves, test instruments, rigging, mobile and support equipment, and lubrication. Lab will be scheduled weekly to emphasize and anchor the course material.

INTEGRATED SCIENCE

IS 090 (4) Integrated Science
This course is designed for students who have taken inadequate, or no previous high school level science courses. The course will provide the needed background to gain clear understanding of the biological or chemical processes for University level courses. Specific simple science themes to be covered include, Inorganic and Organic Chemistry, the Chemistry of Life (Biochemistry), Cell Organization and Basic Physics. Inorganic chemistry topics to be covered are Atomic structure, chemicals and symbols, atoms and molecules, ionization, liquid mixtures, diffusion and osmosis, and chemistry of nerve cell propagation. Topics to be covered in organic chemistry will include covalent bond, polar and nonpolar covalent bonds, and functional groups in organic compounds, hydrogen bonds, and isomers. Topics in biochemistry would include, carbohydrates, lipids, proteins, nucleotides, enzymes, methyl groups, biological oxidation, photosynthesis, and oxygen-carbon dioxide transport in blood. Topics to be covered in basic physics include, introductory mechanics and properties of matter, heat, light, sound waves, electricity, magnetism, atomic and nuclear energy. *This course has no Prerequisites and laboratory sessions.*

INFORMATION TECHNOLOGY

IT- 101 (3) Introduction to Technology
This course introduces the students to the major ideas contained within computer science, digital manufacturing, and new media disciplines. These three areas encompass many of the practical application disciplines available to those who want to eventually work in an Information Technology related job. It is also an introduction to the Information Technology curriculum at the college and is designed to help students make intelligent decisions related to pursuing their eventual Information Technology career.

IT- 103 (3) Creativity and Technology
Creativity is the ability to take disparate experiences, emotions, knowledge gained from reading or discussion, conversations, information, and visual stimuli to create a new synthesis. Often called "out of the box thinking," creativity allows a high level of problem analysis and problem solving. It often demands that people get out of where they are comfortable and free up their thought and emotional processes to see what they are examining in a new, "creative" way. It also leads to the creation of new products and processes that create value for organizations or businesses that drive the business forward. Learning about, and becoming good at creative processes, is especially important to economic development for poor communities. Those who are creative often face opposition, so part of becoming a creative thinker is learning how to understand why people oppose creative ideas and come up with strategies to deal with oppositional thinking and behavior both intellectually and emotionally.

IT-105 (3) Introduction to Programming
This course will introduce students to the basics of programming concepts and techniques. Students will be introduced to the logic of design in programming and fundamentals of working with data types, conditional statements, loops, and simple algorithms. The Processing programming language will be used to introduce students to the concepts behind the Java programming language through structured code to create and manipulate graphical objects and animations.

IT-110 (3) Introduction to Digital Logic/Hardware Programming
This course will introduce students to the knowledge base necessary for a deep understanding of how computers work from the transistor level to abstract programming to accomplish tasks and solve problems. Fundamental understanding of how information is stored and manipulated at the bit level will be explored within the context of what is necessary to be successful in crafting solutions as a programmer. Boolean algebra and number systems relevant to computing will be introduced and mastered as it pertains to digital logic design and hardware programming. Software Defined Hardware and Open Source hardware will be introduced and projects will be completed demonstrating the ability to apply what is learned from the content of the course.

IT-111 (3) Human Computer Interaction
Ubiquitous and rich sensor-filled environments are finding their way out of the laboratory and into our workplaces and homes. Networked societies where personal computing devices for mobile phones to smartcards filler pockets and electronic devices surround us at home and work. The Web has grown from a largely academic network into the Hubble business and everyday lives. As the distinctions between the physical and the digital and between work and leisure start to break down, human-computer interaction is also changing radically. This course introduces students to HCI interaction design, and usability or interactive systems design. Students will be introduced to the foundations, design process, and models and theories of HCI.

IT- 115 (3) Drawing and Visual Culture
This course is will introduce students to the fundamental principles of visual representation and design. Students will develop familiarity with definitive works in the visual canon and important movements that have changed visual representation throughout history. Additionally, students will be asked to make subjective and objective evaluations of visual work.

IT- 125 (3) Introduction to Digital Video
In this class students are introduced to the technical and aesthetic issues surrounding the moving image. The topics introduced in this class include optics, exposure, framing, lenses, resolution, compression, transfer, editing, audio production, pacing, documentary, and the film canon. Students are required to produce a brief documentary style project at the end of the semester. Throughout the course, students will be encouraged to apply the Diné Philosophy of Learning to the course material.

IT-142 (3) Web Design Concepts
This course provides a thorough and practical guide to creating professional web sites and web pages. Students will acquire the skills necessary to create multi-column CSS layouts with optimized graphic files. Topics covered include simple XHTML, DTDs, CSS, optimizing web graphics, site development, hosting, domain names, and FTP.

IT-150 (3) Introduction to System Administration
This course exposes students to the best practices of system and network administration, independent of specific platforms or technologies. Students will learn six key principles of site design and support practices: simplicity, clarity, generality, automation, the mutation, and basics. This course examines the major areas of responsibility for system administrators within the context of these principles. Students will also be introduced to change management and revision control, server-upgrades, maintenance windows, and service conversions.

IT-160 (3) Introduction to Digital Ethics
Ethics is important to any professional field. In Digital Ethics a number of issues are important. These include ethics related to the developers/customers relationship, the importance of "non-compete" agreements in commercial settings, maintaining standards, maintaining integrity in the development of computer programs and the management of network systems, protecting individual privacy for users of the Internet, designing and implementing firewalls and security measures to protect user information, respect for trademarks and copyrights, maintaining professional relationships with clients, co-workers, or users of systems the technician/developer/designer develops, maintains, or implements, and developing habits of professional behavior such as follow-up, honesty, openness, communication of challenges, and respect for others.

IT-200 (3) Sound Design
The prerequisite for this class is the completion of all general studies math requirements. This class is designed to introduce students to the audio production work flow. Topics covered include the fundamentals of acoustics, digital audio representation, microphones, DAWs, mixing, synthesis, and recording. Students are required to produce an audio project by the end of the semester that could take the form of a podcast, remix, radio play, original composition, or soundtrack. Throughout the course, students will be encouraged to apply the Diné Philosophy of Learning to the course material.

IT-215 (3) Motion Graphics
This class is designed to introduce students to the technical and aesthetic challenges of creating two dimensional animations. Students are introduced to the history of animation, raster graphics, vector graphics, tweening, filters, lower-thirds, title sequences, and text animation. Students are required to produce a short (1-2 minute) two dimensional animation project by the end of the semester

IT-218 (3) Algorithms & Data Structures
This course introduces the fundamentals of algorithm function and design for sorting and order statistics and advanced design and analysis techniques. Data structure discussion will include elementary structures, hash tables, binary search and red-black trees, Fibonacci Heaps, and disjoint sets. Selected topics will include multithreaded algorithms, matrix operations, linear programming, string matching, computational geometry, NP-completeness, and approximation. *Prerequisite: IT-105*

IT-220 (3) Database Design
This course exposes students to basic, platform-independent principles of relational database design. Students will apply common-sense design methodology

for developing databases that work. Students will also learn the fundamental principles and syntax of structured query language (SQL).

IT- 222 (3) Computer Security
This course introduces the essentials of computer and network security and covers of all the objectives for CompTIA'a Security+ certification program. Best practices, roles, and responsibilities of security practitioners are covered. Defensive measures are also introduced to protect computer systems and networks from attacks.

IT-225 (3) Digital Video II
"Introduction to Digital Video" is a prerequisite for this class. Digital Video II introduces students who already have basic camera competency to the technical and aesthetic challenges of narrative film making. The topics introduced in this class include set design, sound design, cinematography, advanced camera techniques, jibs, steadicams, chromakey, story boarding, script writing, directing, lighting, and scheduling. Each student is required to produce a short narrative project and crew on other student projects. Throughout the course, students will be encouraged to apply the Diné Philosophy of Learning to the course material.

IT-260 (3) Internetworking (3cr)
This course introduces students to TCP/IP protocols, Internet architecture, and current networking technologies. Topics to be covered include layering and packet formats for all the Internet protocols, including TCP, IPv4, IPv6, DHCP, and DNS. Other areas of interest will be covered such as new trends in Internet systems, including packet classification, Software Defined Networking (SDN), and mesh protocols. *Prerequisite: IT-150*

IT-270 (3) Web Standards
This course provides a thorough and practical guide to applying web standards enforced by the World Wide Web Consortium (W3C). Students will be exposed to standards that will allow content to be more compatible with multiple different viewing devices such as screen readers, cell phones, PDFs, HTML, XML, and CSS. *Prerequisite: IT 142*

IT–275 (3) Media Criticism
Radio, TV, Film, Internet have become the main channels of education, information and entertainment for today. This course presents an introduction into understanding and 'reading' Media. In the class you develop intelligent perception of Media, and look at the History, Present and Future of Mass Media. You learn about the slogan 'The Medium is the message' and its meaning, and develop a professional approach in dealing with Media.

IT-280 (3) IT Project Management
This course examines the organization, planning, and controlling of projects and provides practical knowledge on managing project scope, scheduling and managing resources. Topics include project life cycle, work breakdown structure and Gantt charts, network diagrams, scheduling techniques, and resource allocation decisions. Concepts are applied through team projects and tutorials using project management software.

IT-315 (3) Multicore Programming
Multiprocessor Machines, or Multicores, as they are known in the industry, are quickly taking over every aspect of computing. The art of programming these systems, currently mastered by few, requires ad understanding of new computational principles, algorithms, and programming tools. This course seeks to introduce students to the tricks of the trade by providing a comprehensive presentation of the guiding principles ad algorithmic techniques necessary for effective multiprocessor programming. *Prerequisite: IT 218*

IT-332 (3) Network Security
This course provides a thorough and practical guide to network security through understanding your attacker in depth. System threats are covered including reverse engineering, SQL attacks, social engineering, anti-forensics, and other advanced attacks against UNIX and Windows systems. Emphasis is placed on acquiring the skill of reverse engineering to understand malware, trojaned binaries, spyware, and SQL injection. *Prerequisite: IT 222*

IT-335 (3) Data Visualization
This course is designed to introduce students to data visualization. Developing the skills to clearly and concisely visualize that data will be an invaluable tool in the future. Students will work with a variety of different visualization tools to produce static and dynamic visualizations. Students will analyze a variety of visualizations to determine what make certain methods effective, and what detracts from the clear and concise communication of information. The students work will them be collected in a multimedia web portfolio.

IT-345 (3) Editing Concepts
This course introduces students to the rules of editing through the use of non-linear editing systems. Students will learn about rhythms, screen direction, and continuity. Students will also learn about the key movements and concepts in the history of editing films, from Edwin S. Porter, to Segei Eisenstein to Hitchcock and contemporary editors. Students will speak the language of editing, apply the elements of editing to tell a story, explore and use sound track, and become proficient in the fundamentals of industry standard editing platforms. *Prerequisite: IT-225*

IT-350 (3) Programming Interactivity
This class is designed to expose students to non-linear media design. Topics covered include Flash, action-script, Max/MSP, Quartz composer, Open Frameworks, and micro-controllers. Students are required to produce an original interactive media project by the end of the semester.

IT-375 (3) Javascript Core Skills
This course exposes students to the Document Object Model (DOM) and how to use JavaScript to add dynamic effects and manipulate the structure of the document on the fly. Students will use JavaScript and the DOM to enhance web pages with client-side dynamic effects and create markup on the fly. Some topics to be covered include: application of dynamic behavior to web pages without inserting JavaScript; writing scripts that degrade gracefully when JavaScript isn't available; using web standards to ensure cross -browser compatibility; harnessing the power of the DOM to create user-controlled animation; and using Ajax. *Prerequisite: IT 270*

IT-405 (3) Cluster Maintenance/Management
This course offers information about building Linux clusters from the ground up. Best practices, helpful hints, and guidelines are covered that allow building one server or hundreds of servers at a level that administrators at any experience level can understand. Students will incorporate best practices and cutting edge approaches for bringing up a Linux cluster to production level. *Prerequisite: IT 260*

IT-435A (3) & B (3) HPC/Parallel Computing
This senior level course pair will bring together the knowledge and skill sets obtained in the program to determine how parallel computer environments can be successfully applied to large-scale scientific computations. Students will successfully implement clusters of multicore/manycore machines to solve specific problems. Intelligent workload management systems will be explored and applied to automate the scheduling, managing, monitoring, and reporting of HPC workloads on massive scale, multi-technology installations. *Prerequisite: IT 315*

IT-415 (3) Audio Project
The audio project is designed for students who have completed audio production. The student must create a pitch for their audio project at the beginning of the semester, and then, in close contact with their program advisor, spend remaining time writing, directing, recording, editing, and showing a work that demonstrates mastery of the technical and aesthetic challenges of audio production. Acceptable final project are musical recordings, net casts, or sound design for film.

IT-420 (3) Advanced CSS
This course provides content to take the three main web standards, XHTML for data structure, JavaScript for dynamic effects, and Cascading Style Sheets for styling of data, and tie them together using advanced CSS techniques to allow the student to craft modern, standards-compliant web page designs. Students will learn good working practices, the cascade, the box model, relative and absolute positioning, and floating. Advanced techniques will be applied to overcoming browser quirks and hacking and filtering. *Prerequisite: IT 375*

IT-440A (3), B (3) Advanced Technology Security
This senior level course pair will bring together the knowledge and skill sets obtained in the program to apply computer and network security tools and environments to allow the deep analysis of compromised systems and test live environments for existing weaknesses and mitigate any potential loss of information those weaknesses may cause. *Prerequisite: IT-332.*

IT-445 (4) 3D Modeling/Animation
In this class students are introduced to the technical and aesthetic challenges of creating three dimensional animation. Topics covered include 3-D modeling, texturing, openGL, augmented reality, and 3-D environment design. Students who are interested in learning the fundamentals of basic computer geometry, will look at the basic elements that make up the 3D models. Students will be introduced to a couple of application programs that are used in today's 3D modeling environment. Students will have hands on training in creating, lighting, editing and mapping of materials for the 3D models. Modeling projects will be planned, designed and produced. Students will be encouraged to work as a team. Students are required to produce a short (1-2 minute) 3-D animation project by the end of the semester. *Prerequisite: IT-215*

IT-450 (3) Interactive Project
The interactive project is designed for students who have completed *Programming Interactivity*. The student must create a pitch for their interactive project at the beginning of the semester, and then, in close contact with their program advisor, spend remaining time constructing, designing, and showing a work that demonstrates mastery of the technical and aesthetic challenges of interactive design. Acceptable final project are highly interactive website, programs, or installations. *Prerequisite: IT-350*

IT-472A (3) & B (3) Web App Development
This senior level course pair will bring together the knowledge and skill sets obtained in the program to apply HTML5, CSS3, and JavaScript to create and deploy web applications. Topics will include creating a user interface, writing a server, building client-server

communication and using a cloud-based service to deploy applications. *Prerequisite: IT-375*

IT-480 (3) Aural and Optical Perception
The prerequisites for this class are completion of all general studies science and math requirements. This class is designed to introduce students to the aural and optical perception systems in the human body. Students learn the basic anatomy of the eye, ear, and how each communicates with the brain. An emphasis will be placed on the phenomena in perception that impact media design. Throughout the course, students will be encouraged to apply the Diné Philosophy of Learning to the course material.

IT-485A (3) & B (3) Advanced Technology Administration
This senior level course pair will bring together the knowledge and skill sets obtained in the program to apply virtualization solutions, including networking, storage, servers, operating systems, application optimization, security and clustering. Interoperable design tools will be used to implement highly-efficient architectures for new, expanded, or retrofit datacenter projects. *Prerequisite: IT-405*

IT-490a and b (3) Senior Project
The senior project is designed for students in their senior year who have already demonstrated competency in video, audio, and animation. The student must create a pitch for their senior project at the beginning of the year, and then, in close contact with their program advisor, spend two semesters writing, directing, shooting, editing, and showing a work that demonstrates mastery of the technical and aesthetic challenges of media production.

IT-195/295/395/495 (1 – 3) Topics in Information Technology
This course examines a variety of topics, trends, and emerging technologies of contemporary interest to those in information technology or related fields. Course content varies each semester so course may be repeated for credit with differing section numbers. Typically, the course that is offered under this heading is an elective and is offered according to interest, need, and demand.

ITS-107 (3) Internet Research
This is a hands-on first course in the use of the Internet and webpage design using HTML. Areas of study will include email, FTP and other Internet tasks such as research techniques, HTML, etiquette, and ethics. This course is an introduction to using the Internet effectively for research. Student will learn how perform basic and complex Internet searches, use search engines and subject guides effectively, evaluate and cite online resources, and utilize specialized research tools, including newsgroups and intelligent search agents.

ITS-120 (3) Microsoft Office Suite
This course is designed to provide students with hands-on experience related to the personal computer and its uses in society. Application programs from the Microsoft Office Suite will be taught including Word, Excel, Outlook, Access and PowerPoint. This course is designed to provide students with a general introduction to word processing, spreadsheet, database, and presentation software. Students will be completing many hands- on assignments and activities using a personal computer in a supportive lab setting. *Prerequisite: CMP-101 or permission of the instructor.*

ITS-195/295 (1 – 3) Topics in Information Technology
This course examines a variety of topics, trends, and emerging technologies of contemporary interest to those in information technology or related fields. Course content varies each semester so course may be repeated for credit with differing section numbers. Typically, the course that is offered under this heading is an elective and is offered according to interest, need, and demand.

ITS 415 (3) Directing and Producing
The producer's job is to evaluate a story, secure the rights and pitch the story to secure financing. Students will learn this process: evaluate and improve a story, pitch the story, schedule the project, develop a basic budget and discuss and solve problems during production, or class projects. They will learn the producer's role in the six phases of the film manufacturing process. The course will also examine the role of the director in relation to critical, creative areas of motion picture production. Students will work in digital video format to practice their skills.

LAW ADVOCATE AND LEGAL ASSISTANT

LAW-101 (3) Introduction to Law
This course exposes the student to the positioning of laws in society, and the organization of the court and judicial structure within the Navajo Nation, the state, and federal court systems and how that affects Indian people. Special emphasis is placed on law within Diné society, with study of traditional peacemaking and dispute resolution systems as they exist today.

LAW-103 (3) Criminal Law
Criminal Law is the study of U.S. Constitutional law as applied in the federal court systems, and Navajo Nation criminal laws as applied with the Nation. Students will become familiar with the sources of criminal law, essential elements that must be proven to determine if a crime has been committed, crimes against persons, property, the community, and a further study of defenses against accusations of crime.

LAW-104 (3) Legal Research and Writing
This course introduces the student to on-line legal

research as well as to traditional book-based research. Writing assignments include memorandums of law and legal briefs, as well as other legal research assignments relevant to the effective practice of law. *Prerequisite: Must be concurrently enrolled in or successfully completed (earned a grade of C or higher) ENG 105 or ENG 110 or a comparable English course.*

LAW-105 (3) Advanced Legal Research and Writing
This course is a continuation of LAW-104 and will hone the skills of students in finding the law, framing questions into legal categories, and organizing legal research to write effective, persuasive documents. *Prerequisite: LAW-104*

LAW-106 (3) American Indian Law
This course includes a history of American Indian law and policy among the various tribal nations, the states, and the federal government. The Federal-Indian nation's relationship will be studied including emphasis on Tribal Nation Sovereignty. Criminal and Civil Court jurisdiction will be studied to understand the complex relationship among the governmental entities.

LAW-112 (3) Evidence
Topics to be covered include real [direct] and circumstantial evidence, presumptions, burdens of proof, province of courts [judges] and juries, uses of wrongfully obtained evidence, hearsay, and other forms of evidence. Presentation of evidence to the court and jury is included, with emphasis on laying proper foundations. Resources for this course will include evidentiary rules of the Navajo Nation District Courts and the Federal Rules of Evidence.

LAW-113 (3) Domestic Relations and Family Law
This course examines the areas of marriage, divorce, annulment, adoption, child support and enforcement, and other domestic relations matters in the Navajo Nation judicial system. Criminal laws that pertain to family matters will also be studied, as well as federal laws that apply to the Nation such as the Indian Child Welfare Act.

LAW-201 (3) Consumer Law
This course examines the typical consumer issues that confront Navajo people on the Reservation. Students will examine credit sales and purchases and repossessions, and learn how to prepare writs of sequestration and bonding in issues that may come before the Navajo Nation Court system.

LAW-202 (3) Procedure in Criminal and in Civil Cases
This course examines the courtroom rules of litigation. The resource for this course will be the civil rules and Criminal Rules of Procedure for the District Courts of the Navajo Nation, as well as the federal rules of procedure. Students will learn alternative dispute resolution techniques as practiced in the Peacemaker Division of the Navajo District Court.

LAW-203 (3) Business Law
The class will cover in-depth the law of contracts, credit, employment, agency, commercial paper, insurance, real and personal property, probate, and business organizations. Students will be expected to read and understand the various Navajo Nation Code provisions that apply to these business topics.

LAW-204 (3) Advanced Business Law
This class is a continuation of LAW 203. Emphasis will be placed on the Navajo Uniform Commercial Code, the body of law that governs commercial contracts and other transactions on the Nation. *Prerequisite: LAW-203.*

LAW-205 (3) Professional Responsibility and Ethics
The resource for this course is the Model Rules of Professional Conduct for members of the Navajo Bar Association.

LAW-211 (3) Administrative Law
This course examines the Navajo Rules of Civil and Criminal Appellate Procedure. Administrative Law examines the delegation of legislative and executive authority by the Navajo Nation to its various agencies and boards, powers of the agencies, rule-making by the agencies, due process, hearing rights, and appeals for judicial review from adverse agency decisions.

LAW-212 (3) Trial Practice
This course covers in-depth the conduct of a trial including pre-trial matters and motions, particularized rights, plea negotiation and pre-trial settlement, deferred prosecution, pretrial discovery, and the trial itself from jury selection to verdict. Students will attend available trials conducted in the Crownpoint District Court and will participate in a moot court.

LAW-221 (3) Law Advocate Internship
Students will work as law-advocates-in-training in an office-related supervised work site. Ideally, the work site such as the office of the prosecutor, Legal Defense office, Family or Peacemaker Division, of District Court will be directly engaged in some aspect of the Navajo Nation legal and judicial system.

LAW-225 (3) Navajo Nation Bar Review
This course will help students prepare to take the Navajo Nation Bar exam. The course will review material covered in both the legal assistant and law advocate programs. The ultimate goal of the law advocate program is to provide the training and skills needed by students in order to pass the Navajo Nation bar and become law advocates for the Navajo Nation; this course will be the final step in attaining that goal.

LAW-195/295 (1 – 3) Topics in Law Education
This course examines a variety of legal topics of contemporary interest. Course content varies each semester so course may be repeated for credit with differing section numbers. This course is offered based upon demand, interest, and need.

MAINTENANCE ENGINEERING

ME-345 (3) Statics
This course will introduce students to the science of statics. During the course students will learn how to determine the relationships between forces acting on rigid bodies at rest. Areas covered will be scalar and vector quantities, resultants, analysis of structures, friction, centroids and center of gravity.

ME-353 (3) Fluid Mechanics
Topics include: Fluid properties, turbulent and laminar flow, gas dynamics. *Prerequisite: PHY-111 & MTH- 163.*

ME-354 (3) Thermodynamics
Topics include: Laws of Thermodynamics, Phases of substances, Processes and cycles, Work and heat, Control Volumes, Entropy and Enthalpy. *Prerequisite: PHY-111 & MTH 163*

MATHEMATICS

MTH-098 (3) Technical Mathematics I
This course will cover basic concepts in arithmetic such as whole numbers, fractions, decimals, percent, ratio, proportion, measurement, pre-algebra, pre-statistics, probability, and pre-geometry. Course will be applied to real and relevant fields of studies which includes Navajo culture and Diné Philosophy of Education and mathematics pertaining to students' major.

MTH-105 (3) Mathematics for Engineering Applications
This course will provide an overview of the salient math topics most heavily used in the core sophomore-level engineering courses. These include algebraic manipulation of engineering equations, trigonometry, vectors and complex numbers, sinusoids and harmonic signals, systems of equations and matrices, differentiation, integration and differential equations. All math topics will be presented within the context of an engineering application, and reinforced through extensive examples of their use in the core engineering courses.

MTH-113 (3) Technical Mathematics II
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. *Prerequisite: A grade of C or better in MTH-098 or satisfactory placement scores.*

MTH-115 (3) Introductory Algebra
Introductory Algebra will cover lessons pertaining to Real Number System, Expressions, Solving Equations and Inequalities, Polynomials, and Factoring. Course will be applied to real and relevant fields of studies which includes Navajo culture and Diné Philosophy of Education and mathematics pertaining to students' major. *Prerequisite: A grade of C or higher in MTH-113 or satisfactory placement scores.*

MTH-118 (5) Pre-Algebra
Introductory Algebra will cover lessons pertaining to Real Number System, Expressions, Solving Equations, Polynomials, Factoring, Rational Expressions/Equations, Functions/Graphs/Applications, and Systems of Equations, More on Inequalities, Radical Expressions / Equations / Functions, and Quadratic Equations/Functions. The course will be integrated to other fields of study to make it real and relevant. At times, the learning process relating to the Navajo culture in the areas of Nitsahakees, Nahatah, Iina, and Sihasin will be covered as well as other cultures (multi-cultural studies). *Prerequisite: A grade of B or better in MTH113 or equivalent.*

MTH-120 (4) Intermediate Algebra
Topics included in this course include linear equations and inequalities, functions-concepts and graphing, systems of equations, polynomial functions, factoring, rational and radical expressions, equations and functions, and quadratic equations and functions. This course involves four hours of lecture per week and it is essential that students have a command of basic algebraic skills such as factoring and basic equation- solving before enrolling. *Prerequisites: A grade of C or better in MTH-115 or satisfactory placement scores.*

MTH-121 (4) College Algebra
In this course, topics covered include linear equations and inequalities, linear modeling, functions-concepts and graphing, quadratic functions and models, polynomial and rational functions, exponential and logarithmic functions, and sequences and series. The course involves four hours of lecture per week and students must have a command of basic algebraic skills such as factoring, basic equation-solving, and a thorough knowledge of the rules of exponents and radicals. *Prerequisites: A grade of C or better in MTH-120 or satisfactory placement scores.*

MTH-123 (4) Trigonometry
Topics include trigonometric functions, radian and degree measure, graphs, basic trigonometric identities, inverse trigonometric functions, Law of Sines and Cosines, and practical applications of right triangles. *Prerequisite: A grade of C or higher in MTH-121 or satisfactory placement score.*

MTH-131 (5) College Algebra & Trigonometry
This course is designed primarily to facilitate students in STEM programs complete their basic mathematics requirement. College algebra and Trigonometry is a comprehensive course that deals with the rigor of basic collegiate math that includes topics such as (1) Quadratic function's models, graphs, equations, and applications (2) Polynomial and rational functions. (3) Sequences and series, (4) Combinatory Mathematics: Permutation, Combination, Probability, (5) Matrix Algebra, (6) angle Measure, (7) Trigonometric Functions and applications, (8) Unit Circle (9) Trigonometric Identities, (10) Right Triangle Trigonometry, and (11) Laws of sine and Cosine. *Prerequisite: A grade of C or higher in MTH-120 or satisfactory placement score.*

MTH-150 (4) Pre-Calculus
This course includes topics such as modeling with functions, polynomial and rational functions, exponential and logarithmic functions, basic trigonometric identities, practical applications with right triangles, graphs, inverse trigonometric functions, and Laws of Sines and Cosines, and sequence and series. The course involves four hours of lecture per week. *Prerequisite: A grade of C or higher in MTH-120 or satisfactory placement score.*

MTH-162 (4) Calculus I
This course is designed to develop the analytical ability of students through (1) modeling functions and calculation of its limit, (2) defining and solving derivatives of functions, (3) solving equations of tangent and normal lines, (4) implicit differentiation, (5) chain rule, (6) related rates and optimizations, (7) fundamental theorem of Calculus, (8) volumes of solids of revolution. At times, the learning process relating to the Navajo Culture in the areas of Nitsahakees, Nahat'a, Iina, and Sihasin will be covered as well as other cultures (multi-cultural studies). *Prerequisite: A grade of C or better in MTH-123 or an equivalent course or satisfactory placement score.*

MTH-163 (4) Calculus II
This course covers topics such as applications of integration, area between curves, volumes, techniques of integration, integration by parts, trigonometric substitution, partial fractions, further applications of integration, arc length, area of a surface of revolutions, parametric equations and polar coordinates, infinite sequences and series, comparison tests, ratio tests, root tests, and power series. The course involves four hours of lecture per week. *Prerequisite: A grade of C or better in MTH-162 or an equivalent course or satisfactory placement score.*

MTH-205 (3) Discrete Mathematics
This course is a survey of elementary logic and set theory, functions, direct proof techniques, contradiction and contraposition, mathematical induction and re-cursion, elementary combinatorics, basic graph theory and minimal spanning trees. *Prerequisite: EE-103*

MTH-213 (3) Elementary Statistics
The topics of study for this course include describing, exploring, and comparing data, probability, addition rules, multiplication rules, complements and conditional probability, probability distributions, binomial probability distributions, the Poisson distribution, normal probability distributions, the central limit theorem, estimates of population mean and variance, hypothesis testing, inferences from two samples, and correlation and regression. *Prerequisite: A grade of C or better in MTH-120 or an equivalent course.*

MTH-264 (4) Calculus III
This course is designed to develop the analytical ability of students through the study of (1) partial derivatives, (2) dot products and cross products, (3) vectors, (4) LaGrange multipliers, (5) double integrals, (6) triple integrals in rectangular coordinates, (7) triple integrals in cylindrical and spherical coordinates, (8) line integrals, (9) divergence theorems. At times, the learning process relating to the Navajo Culture in the areas of Nitsahakees, Nahat'a, Iina and Sihas in will be covered as well as other cultures (multi-cultural studies). *Prerequisite: A grade of C or better in MTH-162 or an equivalent course or satisfactory placement score*

MTH-306 (3) College Geometry
An axiomatic approach to fundamentals of Geometry both Euclidean and no-Euclidean. Emphasis on historical development. College Geometry also presents a formal and fundamental development of neutral and Euclidean geometry with an emphasis on valid arguments. Non-Euclidean geometry will also be investigated. The course begins with a thorough review of geometry, including using synthetic and algebraic approaches, and continues with a selection of more advanced topics. Topics covered include two- and three-dimensional shapes, proving triangles congruent or similar, quadrilaterals, circles, plane geometry and non-Euclidean geometry.

MTH-310 (4) Differential Equations
The theory of partial differential equations will be developed. Also, special emphasis will be placed on techniques of solutions and boundary problems. *Prerequisite: MTH-163*

MTH-410 (3) Linear Algebra
The course covers a study of matrices, vectors on a plane, determinants, linear transformations, eigenvalues, and eigenvectors. The class will use technology device such as graphing calculator to aid in computations. Furthermore, they will be trained to be independent learners through both independent practices as well as

cooperative learning

MTH-433 (3) Numerical Analysis with Computers
Introductory concepts and calculus, errors, root finding for nonlinear equations, interpolation and approximation theory, numerical integration and differentiation, linear algebra, eigenvalues and eigenvectors will be discussed. *Prerequisite: MTH-163 & MTH-310.*

NAVAJO / DINÉ STUDIES

NAV-101 (4) Introduction to Navajo Language – Non-Speakers (Conversation)
This introductory course for non-speakers introduces the Navajo language (through the development of oral Language skills) and is aimed at the mastery of pronunciation and identification of the Navajo sound system by increasing vocabulary and simple conversation in Navajo

NAV-102 (4) Introduction to Navajo Language – Non-Speakers (Reading/Writing)
This part two introductory course for non-speakers will focus on the beginning of reading and writing of the Navajo language. In addition, it will continue building skills towards mastery of the pronunciation and identification of the Navajo sound system through increasing vocabulary and conversation skills. *Prerequisite: NAV 101*

NAV-103 (3) Introduction to Navajo Weaving
The origin, purpose, philosophy and historical development of weaving from Diné perspective will be taught in this class. Rug weaving in-class projects includes traditional upright-loom weaving techniques and design. *Supply fee: $100.00*

NAV-105 (3) Navajo Cultural Arts
This course involves a series of discussion origin, purpose and philosophy and the development of traditional Navajo arts from traditional cultural perspective. Students will learn some fundamentals of the Navajo traditional art and its creations. *Supply fee: $100.00.*

NAV-110 (3) Foundations of 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.

NAV-115 (3) Intermediate Navajo Weaving
Development of design, skills, and creativity in weaving will be taught, including geometrical, pictorial, and double-woven rugs and comparative study of Diné historical and contemporary weaving will be explored. *Prerequisite: NAV 103. Supply fee: $100.00*

NAV-120 (3) Advanced Navajo Weaving
Student will learn the advance techniques in weaving. This course involves some discussions on origin, comparative study and development of the complex design and creativity of the advanced Navajo rug weaving process using the geometrical, twilled or two-faced weaving techniques. Some math and design planning will be utilized in this class. *Prerequisite: NAV 115. Supply fee: $100.00*

NAV-121 (3) International Leadership
This course will explore the nature of leadership in selected world communities. It will look at challenges arising from global issues and how each region of the world addresses local problems. It will further review leadership roles in the complexities of the global logic of corporations, governments, NGOs and multi-lateral agencies. Various parts of the world's continents will be reviewed, such as Asia, Africa, South America, and other Western nations.

NAV-201 (4) Introduction to Navajo Language – Native Speakers (Reading)
This introductory course for native speakers introduces the Navajo language (through the development of oral language skills) and is aimed at reading and identification of the Navajo sound system increasing vocabulary and simple conversation skills. *Prerequisite: Fluent Navajo Speaker.*

NAV-202 (4) Introduction to Navajo Language – Native Speakers (Writing)
This part two of introductory course for native speakers will focus on beginning writing of the Navajo language. In addition, it will continue building skills toward mastery of pronunciation and identification of the Navajo sound system through increased vocabulary and conversation skills. *Prerequisite: NAV 201.*

NAV-210 (3) Contemporary Navajo Life & Experiences
An overview of current and historical issues is addressed in this course, which have resulted in policies and regulations affecting Diné. Issues include education, treaties, self-determination, sovereignty, federal-state-tribal legislations, natural resources, and economics, among others, which impact the lives of contemporary Diné.

NAV-211 (3) Navajo History
This course is designed to address anthropological theories of Navajo ancestry. The economic, social, and political development, from early European contact to the present time, is discussed. This includes an overview of important historical trends such as the federally induced

Indian laws and other policies within the context of the Navajo Tribe, including Navajo pre-treaty and post-treaty relations and the Navajo Nation's land growth.

NAV-212 (3) Navajo Historical Perspective of Navajo

This course addresses history from Diné perspective about Diné ancestors and the students in contemporary time. Historical correlation will be made collaboratively with Diné creation stories and the western-constructed history of Diné people

NAV-221 (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.

NAV-225 (3) Diné Philosophy of Education

This course explores the historical perspective and folklore of the early existence of Diné people. The course continues to explore the historical perspective and folklore of the early existence of the Diné people. The course includes an in-depth look at the four principles of the Diné culture and how Diné philosophy reflects today's society.

NAV-250 (4) Introduction to Navajo Linguistics

This course is an introduction to the scientific study of Navajo language. Language is addressed as a cognitive and cultural phenomenon. Students will learn the basics of linguistic analysis, phonetics, phonology, morphology, syntax, semantics and pragmatics

NAV-195/295 (1 – 3) Topics in Diné Studies

This course addresses contemporary themes in the field of Diné language, culture, history, arts, and related areas. Course content varies each semester so the course may be repeated for credit with differing section numbers. The course is offered according to interest, need, and demand.

NAV-301 (4) Intermediate Navajo Language (Conversation & Reading)

This course will concentrate on conversation and continue with reading and writing courses of the Navajo language. It will focus on the mastery of pronunciation, identification and syntax of the Navajo language, and continue to increase vocabulary words and conversation skills. *Prerequisite: NAV 102 or NAV 202.*

NAV-302 (4) Intermediate Navajo Language (Writing)

This course will concentrate on writing the Navajo language. It will continue to focus on the mastery of pronunciation, identification and syntax of Navajo language, and continue the work to increase vocabulary

words and conversation skills. *Prerequisite: NAV 301.*

NAV-310 (3) Colonization and De-Colonization

This course introduces and examines colonization and decolonization through Diné philosophy and theories. Within it, the course will address the role of Diné in the support and affirmation of colonization and how students participate in the process of decolonization, knowingly and unknowingly.

NAV-321 (3) Global Indigenous Leadership

The course will cover leadership concepts in various global Indigenous communities. Communities to be considered are in Africa, South America, Central America, North America (Canada, Hawaiians, Island communities and those indigenous to the United States), northern Europe and Asia. The various forms of leadership within each community will be fully explored and discussed. *Prerequisite: NAV 121.*

NAV-401 (4) Advanced Navajo Language (Conversation & Reading)

This advanced course will concentrate on technical conversation and advanced reading of the Navajo language. It will continue to focus on the mastery of pronunciation, identification and syntax of Navajo language, and continue the work to increase vocabulary words and conversation skills. *Prerequisite: NAV 302.*

NAV-402 (4) Advanced Navajo Language (Writing)

This advanced course will concentrate on writing of the Navajo language. It will include technical writing in conversation, presentation, lectures, and contexts to a Navajo audience. *Prerequisite: NAV 401.*

NAV-410 (3) Traditional Navajo Cultural Practice & Theory

This course will focus on the historical framework of how Navajo culture was practiced, prior to the 1950s, and discuss key theories extracted from that time period of the history of Navajo people. *Prerequisite: Fluent Navajo Speaker.*

NAV-411 (3) Cultural Revitalization: Problems, Solutions, & Possibilities

There are multiple social problems with the current Navajo Nation, which are redefining what Navajo culture is now. What is preventing the retention and maintenance of the traditional cultural practice of Diné ancestral history is the focus of this course. What are the barriers to retention and maintenance of the culture? What are the solutions to retain and maintenance the culture? What are the possible future outlooks for the culture?

NAV-421 (3) Native North American Leadership

Various tribes in the United States and Native communities in Alaska and Hawaii will be the focus of

this course in analyzing its concept of leadership. Historical and traditional methods of leadership will be fully analyzed and discussed within the Western contemporary context of leadership in today's Indigenous communities and nations. *Prerequisite: NAV 321*

NAV-431 (3) Theoretical Indigenous Leadership
The theories of cultural leadership of selected global Indigenous communities will be explored in this course. The theoretical use in the implementation of Western empirical cultural leadership will be analyzed.

NAV-441 (3) Traditional Navajo Leadership
This course explores historical theories and practice of citizenship and leadership as it relates to the Navajo experience. Topics of citizenship, citizenship education, and politics and leadership studies will be addressed. The focus will be on Navajo Nation, its history, and current Western political affairs. This course will help students develop their own vision and plan that relates to being a Navajo citizen and a servant leader in Navajo public service. *Prerequisite: Fluent Navajo Speaker.*

NAV-442 (3) Contemporary Navajo Gender, Politics, & Leadership
Current social issues pertaining to gender, politics and leadership will be addressed in this course. Topics that will be explored include: It is more common to see women as candidates for Navajo leadership, which counters the theory that asserts women as Navajo leader based on the Creation Stories is forbidden. What is the contemporary thinking of Navajo people about this cultural rule? How can it be made workable to satisfy the needs of all Navajo people? What are some of the other gender related concepts that affect the contemporary Navajo reaction to its Western structured politics and leadership?

NAV-443 (3) Navajo Morals and Ethics
The Navajo Creation Stories will be revisited in class to provide the basic cultural constructions of Navajo morals and ethics. These two topics will be addressed, analyzed and brought through Navajo history into contemporary times. The current roles of traditional morals and ethics in today's Western-based Navajo society will be further explored by the students. *Prerequisite: Fluent Navajo Speaker.*

NAV-490a&b (3) Researching Navajo (Senior Thesis)
Each senior student will write a senior thesis approved by the students Senior Thesis Committee. The committee will be formed by the student and approved by the Department Chair and the Undergraduate Dean. The student will select a social issue of the Navajo people and write about the evolution of the problem and explain how it became a problem and address some possible solution to the issue. The Senior Thesis

Committee will approve the thesis as a part of the student's graduation requirement. The student's ability to write, analyzes, comprehend, understand, and convey his/her thoughts in Navajo and English will be the basis of the Committee's approval.

PRE- NURSING

NRS-101 (5) Nurse Assisting Theory and Lab
This course prepares the student to perform nursing assistant skills required for the care and comfort of individuals in various health care settings. Pre-requisite: demonstration of 8th grade reading ability. *Lab fee: $125.00*

NRS-102 (1) Nurse Assisting Internship
This course provides the practical experience for nursing assistant students. Students will apply the nursing assistant skills learned in the nursing assistant theory and lab course in the care and comfort of individuals in various health care settings. This course is graded on a pass/fail basis. *Co-requisite: NRS-101.*

NRS-103 (3) Basic Medical Terminology
This course presents basic concepts of medical terminology. A general overview of work elements that make up medical terminology will be examined. Common medical terminology will be presented. Opportunities will be given for students to learn correct pronunciation and spelling as they define the medical terms assigned.

NRS-110 (4) Body Structure and Functions
This course provides students with an introduction to human anatomy and physiology. It is intended as a first course that will provide a foundation for more complex clinical discussions and more advanced anatomy and physiology courses. This course may be offered as either an online course or in the classroom or it may be offered using a combination of both teaching methods. *The course delivery method is determined by the instructor and may vary from semester to semester.*

NRS 115 (2) Technical Math for Health Professions
This course provides a review of practical mathematics required for accurate and safe medication administration. The content is arranged for a progression of basic to more complex information. Students will be assisted to learn and understand their individual strengths and weaknesses in math and build on this information. Practice is given in dosage calculations across the lifespan, skills required for accurate oral and injectable drug dosage calculations, and reading and interpreting drug orders and labeling. Introductory information is given for intravenous therapy.

NRS-195 (1 - 6) Topics in Nursing
This course explores a variety of topics related to emerging concerns, technologies, and areas of skill development pertinent to the nursing and health-related fields. Course content varies each semester and the course is offered according to interest, need, and demand.

PUBLIC ADMINISTRATION

PAD-101 (3) Introduction to Public Administration
This is an Introductory to Public Administration. It will provide an overview of numerous factors that affect public administration, and study the theories and issues relating to it. This course will cover also important areas including; federalism, contexts of administration, organization theory, organization behavior, management, leadership, labor relations, public personnel management, budgeting, decision making, bureaucracy, and ethics and accountability. This course will also tackle public administration in different countries that will enhance students' understanding of public administration systems. Current cases related to public administration will be incorporated so that students can use critical thinking to analyze issues and apply public administration theories.

PAD-110 (3) Public Finance Administration
This course focus on administrative activities associated with the handling of public monies for all kinds of public organizations, including non-profit organizations and entities of the local, state and federal levels of government. Administrative activities of concern here are the less visible day to day planning of public monies and related technical support activities rather than the more visible political activities associated with public budgeting.

PAD-210 (3) Public Sector Management
This course provides an overview of the key issues to be addressed and explain on public administration. It will also describe the political actors and institutions external to a government agency that help determine the success or failure of that agency in accomplishing its mission. It will also give an opportunity for student to examine the strategies and structures that government agencies adopt to operate effectively and efficiently in their environments. Public sector management also broadened student knowledge on government systems designed for managing human, fiscal and information resources. This course also recognizes the importance of student developing basic management skills such as communication, motivation, teamwork and group dynamics, decision making, power, influence, and leadership. The course will employ variety of cases, exercises, and simulation to give students some sense of real-world implications of their actions, learn from one's experience, reflection and insights.

PAD-225 (3) Human Behavior in Organization
This course studies the underlying reasons why people act the way they do and help them evaluate the strength and deficit in their biological, psychological, and social development. A variety of theories and research about human growth and development both internal and external variables that influence human behavior in an organization will also be covered.

PAD-230 (3) Internship/Practicum
In the internship portion of this program students will work a minimum of 150 hours at any government agencies like Navajo Nation work related to Public Administration.

PAD-295 (3) Topics in Public Administration
This course examines a variety of topics related Public Administration. Course content varies each semester so course may be repeated for credit with differing section numbers. The course is offered according to interest, need, and demand.

PHYSICAL EDUCATION

PED-101 (1) Physical Education
This course offers seasonal physical activities during each semester for men and women to promote healthy living and fitness throughout life.

PED-120 (1) Strength Training
Introductory activities in strength training individualized programming safety, fitness, benefits, and exercise selection. One hour lab required.

PED-130 (2) Jogging
This is an introductory activities in the proper running techniques, program design, pacing, form running, interval training, and distance running. One hour lab required.

PED-195 (1 – 3) Topics in Physical Education
This course focuses on a variety of areas in physical education, wellness, exercise, and fitness. Course content varies each semester so the course may be repeated for credit with differing section numbers. This course is offered based on need, interest, and demand.

PHYSICS

PHY-101 (4) Introduction to Physics
This course fulfills the general education science requirement for students seeking an associate degree. The contents of the course include measurement, gravitational motion, Newton's Laws, rational mechanics, momentum energy, power, temperature, heat, sound, optical wave, electrostatics, and electricity. Lab included. *Lab fee: $125.00.*

PHY-111 (4) Algebra-Based Physics I
This course is the first in a two-semester introduction to algebra-based physics. The broad topics covered in the course include mechanics, vibrations, and wave motion. More specifically, the topics covered involve one- and two-dimensional motion, vectors, work and energy, momentum and collisions, circular motion, rotational equilibrium and dynamics, solids and fluids, vibration and waves, and sound. Mathematical techniques used in the course include algebra, geometry, and trigonometry, but not calculus. Class meetings will be devoted to lecture, discussion, problem-solving, and discovery labs. There will be three hours of discovery lab each week. *Prerequisite: MTH-120 or permission of the instructor. This course is only offered in the fall semester. Lab Fee: $125.00.*

PHY-112 (4) Algebra-Based Physics II
This course is a continuation of the study of physics begun in PHY-111. The course of study continues with conceptual foundations in electricity and magnetism, optics, and modern physics. In addition, students will learn problem-solving techniques in these areas. Physics 112 is the appropriate second course for students who plan no further study in physics. The course includes three hours of discovery lab per week. *Prerequisite: PHY-111. This course is only offered in the spring semester. Lab Fee: $125.00.*

PHY-121 (4) Calculus-Based Physics I
The first semester of this calculus-based two-semester introductory sequence in physics uses the workshop physics method. This approach combines inquiry-based cooperative learning with comprehensive use of computer tools. Topics covered include kinematics, Newton's laws of motion, rotational motion, and oscillations. The course includes three hours of discovery lab each week. *Prerequisite: MTH-121, MTH-123, or MTH-150. This course is offered in the fall semester only. Lab Fee: $125.00.*

PHY-122 (4) Calculus-Based Physics II
This course continues the study of physics begun in PHY-121. The approach to this course combines inquiry-based cooperative learning with the comprehensive use of computer tools. The course covers topics such as electricity, electronics, magnetism, and thermodynamics. Physics 122 is required for students who wish to further their studies in physics. The weekly three hour discovery lab requires. *Prerequisite: PHY-121 and MTH-162. This course is offered in the spring semester only. Lab Fee: $125.00.*

POLITICAL SCIENCE

POS-220 (3) United States and Arizona Constitution
Examination of the United States Constitution and the constitution and government of the State of Arizona.

PSYCHOLOGY

PSY-105 (3) Introduction to Psychology
This course will be a broad look at the science of psychology today and will serve as a window into the concepts of psychology. The course will cover topics such as the nervous system, sensation and perception, sleep and dreams, types of memory, thought, and language. It will also examine how human beings develop cognitively, emotionally, and socially.

PSY-210 (3) Developmental Psychology
This course is an introduction to the psychology of human development throughout the lifespan. Participants study theories in maturational and behavioral development throughout life stages as well as the general principles and concepts of human growth. The course meets the needs of the students who are enrolled in programs where an understanding of human development is important, such as early childhood education, preschool and elementary education, human services, counseling, and nursing. *Prerequisite: PSY 105 or permission of instructor.*

PSY-195/295/395 (1 – 3) Topics in Psychology
This course examines a variety of topics related to contemporary psychology issues and practices. Course content varies each semester so course may be repeated for credit with differing section numbers. The course is offered according to interest, need, and demand.

SMALL BUSINESS

SBS-101 (3) Introduction to Small Business
This course covers all phases of the development and management of a small business with emphasis on small tribal businesses. The course includes such components as characteristics of an entrepreneur, the different types of businesses, customers, competition, marketing and market plans, pricing and sales planning, personal finances, analysis of financial sources, types of ownership, and regulations.

SBS-112 (3) Small Business Marketing
This course covers marketing concepts, such as strategic planning, marketing environment and marketing ethics, market opportunities, product decisions, distribution decisions, marketing communications, and pricing decisions.

SBS-113 (3) Navajo Ethics and Commercial Law
This course is a survey of ethics and business law as they pertain to the Navajo Nation. Topics covered are ethics, law, and the judicial system; uniform commercial code; contract law; and sales and consumer protection.

SBS-195 (1 – 3) Topics in Small Business Management & Development
This course covers a variety of topics in the field of small business management and development. Course content varies each semester so course may be repeated for credit with differing section numbers. This course is offered according to need, interest, and demand.

SCIENCE

SCI-101 (4) Physical Science
This is an introductory, survey course that covers the fundamental concepts in physics, chemistry, geology, and astronomy. A hands-on lab is included as part of this course. *Lab fee: $125.00.*

SCI-195/295 (1 – 4) Topics in Science
This course is designed to explore emerging fields in the physical sciences and related areas of engineering and technology. Course content varies each semester so course may be repeated for credit with differing section numbers. The course is offered based upon demand, need, and interest.

SOCIOLOGY

SOC-101 (3) Introduction to Sociology
This course covers a broad survey of the field of Sociology and the principles that sociologists use to understand the development of the human social environment. The course introduces the basic concepts and theories of sociology—culture, socialization, social groups, deviance, race, ethnicity, gender, age, family, health care, religion, and global society. This course may be taken to satisfy the general education Humanities/ Social Sciences requirement. *Prerequisite: A grade of C or better in ENG-098 or an equivalent course.*

SOC-210 (3) Sociology of Social Problems
This course analyzes, from a sociological perspective, a range of problems in the contemporary U.S. and world society—racism and prejudice, poverty and inequality, changes affecting families, problems of substance abuse, global inequality, survival of indigenous peoples worldwide, violence and other areas of contemporary concern. This course may be taken to fulfill the general education Humanities/Social Sciences requirement. *Prerequisite: A grade of C or better in ENG-098 or an equivalent course.*

SOC-195/295/395 (1 – 3) Topics in Sociology
This course covers a variety of topics in the field of sociology and sociology-related areas. Course content varies each semester so course may be repeated for credit with different sections numbers. This course is offered based upon interest, need, and demand.

SOCIAL SCIENCE

SSC-100 (3) College Success Skills
This course is designed for the student first enrolling at Navajo Technical University. Its purpose is to help students make the most of their college experience by acquiring skills and information about college life and culture, instructors' expectations, study and test-taking strategies, and managing their financial and educational future. The student will also discover helpful information that will assist those planning to transfer to a four year institution, if that is a goal for the student. The Diné Philosophy of Learning is an important component of this class.

SSC-195, 295 & 395 (1 – 3) Topics in Behavioral and Social Sciences
This course covers a variety of topics in the fields of political science, anthropology, and related social science disciplines. Course content varies each semester so the course may be repeated for credit with differing section numbers. This course is offered based upon interest, need, and demand.

VETERINARY TECHNOLOGY

VET-090 (1) Introduction to Veterinary Technology
This course will give veterinary technology students an overview of the veterinary technology program and an overview of a career in veterinary technology. Students must earn 75% or better to advance to the next level of courses in the major. This course is offered in the fall and spring semesters only.

VET-130 (1) Veterinary Medical Terminology
This course provides students with a foundation in the language of veterinary medicine, focusing on prefixes, suffixes, word roots and their combining forms. *Prerequisites*: BIO 120, CHM 120, ENG 110 or 111 or 112, MTH 121, and NAV 101 or higher. Students must earn 75% or better to advance to the next level of courses in the major. This course in only offered in the fall semester.

VET-131 (1) Navajo Veterinary Medical Terminology
This course will provide a foundation in communicating and understanding Navajo veterinary medical terms and client communication. *Prerequisites*: BIO 120, CHM 120, ENG 110 or 111 or 112, MTH 121, and NAV 101 or higher. Students must earn 75% or better to advance to the next level of courses in the major. This course in only offered in the fall semester.

VET-132 (1) Veterinary Office Procedures
This course will provide students with experience with commonly encountered clinical procedures with an emphasis on the role of the veterinary technician in the management of veterinary patients, records, laws and

ethics, and client communication. This course will also introduce students to veterinary management software. *Prerequisites*: BIO 120, CHM 120, ENG 110 or 111 or 112, MTH 121, and NAV 101 or higher. Students must earn 75% or better to advance to the next level of courses in the major. This course is in only offered in the fall semester.

VET-134 (6) Veterinary Anatomy & Physiology I

This course provides background in the anatomy and physiology of animals. The course covers the structure and function of each body system, including skeletal, muscular, circulatory, integumentary, respiratory, cardiovascular, urogenital, reproductive, nervous, and endocrine. This course will also cover basic physiology principles, metabolism, digestion, acid-base balance, immunity, and unique characteristics of common domestic species. Applied laboratory experiences are included. *Prerequisites*: BIO 120, CHM 120, ENG 110 or 111 or 112, MTH 121, and NAV 101 or higher. Students must earn 75% or better to advance to the next level of courses in the major. This course in only offered in the fall semester.

VET-136 (2) Veterinary Nursing I

This course will cover small animal patient assessment techniques (signalment, history, and patient data), restraint, and husbandry. *Prerequisites*: BIO 120, CHM 120, ENG 110 or 111 or 112, MTH 121, and NAV 101 or higher. Students must earn 75% or better to advance to the next level of courses in the major. This course is only offered in the fall semester.

VET-140 (2) Veterinary Surgical Nursing

This course provides familiarity with surgical instruments, surgical support equipment, and surgery room preparation. *Prerequisites*: VET-130, VET-131, VET-132, VET-134, and VET-136. Students must earn 75% or better to advance to the next level of courses in the major. This course is only offered in the spring semester.

VET-142 (2) Veterinary Pharmacology for Technicians

This course provides background in pharmacology principles, including topics such as: mechanism of drug action, types of drugs, pharmacy management, client communication, regulations, and calculations related to drug dosages. *Prerequisites*: VET-130, VET-131, VET-132, VET-134, and VET-136. Students must earn 75% or better to advance to the next level of courses in the major. This course is only offered in the spring semester.

VET-144(3) Veterinary Clinical Laboratory Procedures I

This course will cover the biology, clinical appearance, laboratory handling, and laboratory diagnosis of parasitic disease and their zoonotic potential. *Prerequisites*: VET-

130, VET-131, VET-132, VET-134, and VET-136. Students must earn 75% or better to advance to the next level of courses in the major. This course is only offered in the spring semester.

VET-146 (2) Veterinary Nursing II

This course will cover small animal patient diagnostic specimen collection and therapeutic techniques. *Prerequisites*: VET-130, VET-131, VET-132, VET-134, and VET-136. Students must earn 75% or better to advance to the next level of courses in the major. This course is only offered in the spring semester.

VET-148 (2) Animal Nutrition

This course provides a foundation in the principles of animal nutrition emphasizing the relationship between nutrition and health. The course focuses on the basic elements of nutrition including the major categories of nutrients, and their sources, digestion, and metabolism. Both large and small animal feeds and feeding will be covered. *Prerequisites*: VET-130, VET-131, VET-132, VET-134, and VET-136. Students must earn 75% or better to advance to the next level of courses in the major. This course is only offered in the spring semester.

VET-150 (1) Veterinary Dentistry

This course will cover dental anatomy, physiology, and pathophysiology, routine prophylaxis including equipment, environment, instruments, supplies, radiology, and client education. *Prerequisites*: VET-130, VET-131, VET-132, VET-134, and VET-136. Students must earn 75% or better to advance to the next level of courses in the major. This course is only offered in the spring semester.

VET-230 (3) Veterinary Medicine and Surgery

This course will cover common medical and surgical conditions of small and large animals with the emphasis on the role of the veterinary technician in the management of these cases. *Prerequisites*: VET-140, VET-142, VET-144, VET-146, and VET-148. Students must earn 75% or better to advance to the next level of courses in the major. This course is only offered in the fall semester.

VET-232 (3) Veterinary Anesthesiology

This course provides an overview of the fundamentals of pre-anesthetic preparation, induction, anesthetic maintenance, post-operative care, and anesthesia monitoring for patients. The students will gain knowledge on anesthetic agents including their actions, side effects, and methods of delivery. Students will learn about anesthetic equipment, pain management, and basic life support and emergency response procedures. *Prerequisites*: VET-140, VET-142, VET-144, VET-146, and VET-148. Students must earn 75% or better to advance to the next level of courses in the major. This course is only offered in the fall semester.

VET-234 (4) Veterinary Clinical Laboratory Procedures II
This course will cover the biochemical parameters that characterize disease. Topics include sample collection, analysis of urine, blood, cytological samples, basic principles of anatomic pathology, and necropsy procedure. *Prerequisites*: *VET-140, VET-142, VET-144, VET-146, and VET-148.* Students must earn 75% or better to advance to the next level of courses in the major. This course is only offered in the fall semester.

VET-236 (2) Veterinary Diagnostic Imaging I
This course will introduce students to the basic principles of radiology including the production of x-rays, radiation safety, diagnostic applications, equipment, darkroom procedures, the radiographic image, animal positioning and technique. An instruction to computed tomography, ultrasound, and endoscopy will be covered. *Prerequisites*: *VET-140, VET-142, VET-144, VET-146, and VET-148.* Students must earn 75% or better to advance to the next level of courses in the major. This course is only offered in the fall semester.

VET-240 (2) Veterinary Diagnostic Imaging II
This course will provide hands-on experience utilizing radiographic equipment, positioning of animals for radiographs, developing a technique chart and utilizing dark room procedures. *Prerequisites*: *VET-230, VET-232, VET-234, VET-236, and VET-238.* Students must earn 75% or better to advance to the next level of courses in the major. This course is only offered in the spring semester.

VET-242 (2) Avian, Exotic, Lab Animal Husbandry and Handling
This course provides students with knowledge and skills in clinical procedures and focuses on exotic and laboratory animal husbandry, handling, restraint, and specific problems encountered with exotic and lab animals. *Prerequisites*: *VET-230, VET-232, VET-234, VET-236, and VET-238.* Students must earn 75% or better to advance to the next level of courses in the major. This course is only offered in the spring semester.

VET-244 (3) Veterinary Clinical Laboratory Procedures III
This course will cover the biology, clinical appearance and laboratory diagnosis of bacterial and viral causes of veterinary disease, including zoonotic importance. Laboratory safety and maintenance of laboratory equipment will also be covered. *Prerequisites*: *VET-230, VET-232, VET-234, VET-236, and VET-238.* Students must earn 75% or better to advance to the next level of courses in the major. This course is only offered in the spring semester.

VET-246 (2) Veterinary Nursing III
This course will cover large animal patient assessment techniques (signalment, history, and patient data), restraint, husbandry, patient diagnostic specimen collection, therapeutic techniques, and dental techniques. *Prerequisites*: *VET-230, VET-232, VET-234, VET-236, and VET-238.* Students must earn 75% or better to advance to the next level of courses in the major. This course is only offered during the spring semester.

VET-248 (2) Veterinary Critical Care
This course will provide instruction assessment, monitoring, and intervention with emergencies. The student will use knowledge of overall anatomy, physiology, disease, or injury to assist in veterinarian diagnoses and treatment. *Prerequisites*: *VET-230, VET-232, VET-234, VET-236, and VET-238.* Students must earn 75% or better to advance to the next level of courses in the major. This course is only offered in the spring semester.

VET-250 (1) Veterinary Technician National Examination Review
This course will review the following topics in preparation for clinical practice and the Veterinary Technology National Exam (VTNE): Pharmacy & Pharmacology, Surgical Nursing, Dentistry, Laboratory Procedures, Animal Care and Nursing, Diagnostic Imaging, Anesthesia, Emergency Medicine/Critical Care, and Pain Management/Analgesia. Students will also learn test taking skills. *Prerequisites*: *VET-230, VET-232, VET-234, VET-236, and VET-238.* Students must earn 75% or better to advance to the next level of courses in the major. This course is only offered in the spring semester.

VET-260 (3) Veterinary Technology Practicum I
This 12-week course provides students with the opportunity to supplement coursework with practical work experience in a veterinary setting under the supervision of a veterinarian and experienced personnel. *Prerequisites*: *VET-240, VET-242, VET-244, VET-246, VET-248, and VET-250.* Students must earn 75% or better to advance to the next level of courses in the major. This course is only offered in the summer semester.

WELDING

WLD-101 (3) Welding Fundamentals
Development of basic skills in shielded metal arc welding (SMAW), oxyacetylene cutting welding (OFC), and oxy-fuel welding (OFW) in accordance with the American Welding Society (AWS) entry level welder program will be covered. *Course Fee: $35.*

WLD-105 (3) Pipe Welding I/Structural Welding I
Learn to Set up and adjustment of ARC and oxyacetylene equipment. Welding safety procedures and terminology, skill development in laying weld beads with various patterns, positions, and processes will be discussed.

Course Fee: $35.

WLD-115 (3) Structural Welding I
Emphasis will be placed on AWS entry and advanced level welder skills with SMAW, including all position welding wild mild and stainless steel electrodes. Plasma arc and air carbon arc cutting, metallurgy, heat treatment, and weld defects. *Prerequisite: WLD-101. Course Fee: $35.*

WLD-120 (3) Basic Metallurgy
Properties of ferrous and nonferrous materials will be covered in this course. Service conditions and heat treatment of metals related to welding trade will be discussed. Prerequisite: WLD-101. *Course Fee: $35.*

WLD-125 (3) Introduction to Pipe Welding
Pipe fit-up and welding techniques for pipefitting and pipe weld joint using shielded metal arc welding (SMAW), gas metal arc welding (GMAW), gas tungsten arc welding (GTAW), and flux cored arc welding (FCAW), 2G welding of pipe. *Course Fee: $35.*

WLD-130 (3) Introduction to GMAW MIG/FCAW
Development of basic skills with gas metal arc welding (GMAW), metal inert gas (MIG), flux-cored arc welding (FCAW) in accordance with AWS entry level welder objectives. Wire electrodes, shielding/purge gases, and modes of metal transfer will be discussed. *Course Fee: $35.*

WLD-150 (3) Pipe Welding II/Structural Welding II
This is continuation of WLD-125 and WLD--125, with groove welded joints in a horizontal fixed and 45-degree fixed positions (5-F, 5-G, 6-F, and 6-G). *Course Fee: $35.*

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Instructional personnel have Professional Development Plans do not require State of New Mexico Post-Secondary Certification.
(Ref. State of New Mexico Board of Education Regulation No. 88-5)