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NAVAJO TECHNICAL UNIVERSITY

ESTABLISHED 1979

NTU Program Goals - Expected Student Learning Outcomes

2017

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Assessment
It is a systematic process of determining educational objectives through collecting and analyzing data about student learning outcomes to make decisions about programs, student progress, and accountability of educators.

Program Goals (Expected Student Learning Outcomes)
Programs goals are directly from the program's statement of purpose. They reflect specific knowledge, skills and attributes students will achieve when they complete the program. Expected learning outcomes describe the learning mastered in behavioral terms at specific levels. In other words, they describe what the learners will be able to do at completion of their programs.

Accounting Program Goals

Program Goals (Expected Program Outcomes)	2015	2016	2017
1. Graduates should be able to use accounting information to make informed decisions about the operating performance and financial position of a company.	x	x	
2. Graduates should be able to demonstrate competency in preparing complex financial statements.	x	x	
3. Graduates should be able to describe the fundamentals of accounting based on generally accepted accounting principles.	x	x	
4. Graduates should be able to demonstrate competency in preparing personal income tax returns, payroll register and employee earnings record, and financial statements for business, company and for Governmental and Not-for-profit organization in accordance to Government Accounting Standard Board (GASB), Financial Accounting Standard Board (FASB), Federal Accounting Standard Advisory Board (FASAB) & Comprehensive Annual Financial Report (CAFR) standards.	x		x
5. Graduates should be able to identify personal financial issues of individuals.			x
6. Students should be able to demonstrate an understanding of the monetary and banking issues that are pervasive in all aspects of financial services.			x
7. Students should be able to describe personal financial and investment concepts that enable them to provide customers with advice on investments, insurance, and estate planning.			x
8. Students should be able to show literacy in using different accounting and spreadsheet software.	x	x	

List of courses where the Program Goals (Expected Program Outcomes) will be measured

Program Goals (Expected Program Outcomes)	Courses	Performance Level: Competence or Mastery	Name of Faculty
Graduates should be able to use accounting information to make informed decisions about the operating performance and financial position of a company.	ACG 101 Accounting Principles I ACG 111 Accounting Principles II ACG 113 Accounting Applications	80 Percent	Tilda A. Woody
Graduates should be able to demonstrate competency in preparing complex financial statements.	ACG 204 Advanced Accounting I ACG 214 Advanced Accounting II ACG 225 Managerial Accounting	80 Percent	Tilda A. Woody
Graduates should be able to describe the fundamentals of accounting based on generally accepted accounting principles.	ACG 101 Accounting Principles I ACG 111 Accounting Principles II	80 Percent	Tilda A. Woody
Graduates should be able to demonstrate competency in preparing personal income tax returns, payroll register and employee earnings record, and financial statements for business, company and for Governmental and Not-for-profit organization in accordance to Government Accounting Standard Board (GASB), Financial Accounting Standard Board (FASB), Federal Accounting Standard Advisory Board (FASAB) & Comprehensive Annual Financial Report (CAFR) standards.	ACG 201 Payroll Accounting ACG 112 Income Tax I ACG 215 Income Tax II PAD 101 Introduction to Public Administration PAD 110 Public Finance Administration	80 Percent	Tilda A. Woody Ma. Ethel S. Ramirez
Graduates should be able to identify personal financial issues of individuals.	ACG 210 Principles of Management ACG 212 Introduction to Finance ACG 216 Principles of Marketing	80 Percent	Tilda A. Woody Joe Chapa Ma. Ethel S. Ramirez
Students should be able to demonstrate an understanding of the monetary and banking issues that are pervasive in all aspects of financial services.	ACG 210 Principles of Management ACG 212 Introduction to Finance	80 Percent	Tilda A. Woody Joe Chapa Ma. Ethel S. Ramirez
Students should be able to describe personal financial and investment concepts that enable them to provide customers with advice on investments, insurance, and estate planning.	ACG 210 Principles of Management ACG 212 Introduction to Finance ACG 220 Cost Accounting	80 Percent	Tilda A. Woody Joe Chapa Ma. Ethel Ramirez
Students should be able to show literacy in using different accounting and spreadsheet software.	ACG 114 Spreadsheet Accounting I ACG 211 Accounting Software Applications ADM 114	80 Percent	Tilda A. Woody Ma. Ethel S. Ramirez Joe Chapa

	Business Mathematics and Calculators		Phil Quink

Administrative Office Specialist (AOS) Program Goals

Associate of Applied Science – Administrative Office Specialist

The mission of the Administrative Specialist Program is to prepare students for gainful employment in business/industry administrative assistant positions. Graduates will be able to actively participate in their own job search to gain employment after graduation. Successful graduates will be able to work in and contribute to diverse office environments immediately upon graduation.

Program Assessment Plan

Program Goals – Graduates will be able to:	2016	2017	2018	2019
1. Show proficiency in a variety of office-related software.	x			
2. Work in a collaborative manner/team to accomplish project goals and objectives.		x		
3. Excel in the practice of customer service.			x	
4. Communicate, with skills, to the general public, clients, staff, and superiors any and all information that they need.				x

Advanced Manufacturing Technology Program Goals

Navajo Technical University http://navajotech.edu
P.O. Box 849, Crownpoint, NM 87313-0849 Tel: (505) 786-4100 FAX: (505) 786-5644

Six-Year Program-Level Assessment Plan for Advanced Manufacturing Technology (4 yr program) -Dr. Vohnout

Advanced Manufacturing Technology (4 yr program):

Program Outcomes	2016	2017	2018	2019	2020	2021
(a) An ability to apply knowledge of mathematics, science, and manufacturing methods	x	x	x	x	x	x
(b) An ability to design and conduct experiments as well as to analyze and interpret data	x	x	x	x	x	x

(c) An ability to design a manufacturing system, or process to meet desired production outcomes within realistic constraints such as manufacturability economic, environmental, social, political, ethical, health and safety, and sustainability			x			x
(d) An ability to function on multidisciplinary teams	x	x	x	x	x	x
(e) An ability to identify, formulate, and solve manufacturing problems	x	x	x	x	x	x
(f) An understanding of professional and ethical responsibility	x	x	x	x	x	x
(g) An ability to communicate effectively – written and orally.	x	x	x	x	x	x
(h) The broader education necessary to understand the impact of manufacturing methods in a global, economic, environmental, and societal context	x	x	x	x	x	x
(i) A recognition of the need for, and an ability to engage in life-long learning	x	x	x	x	x	x
(j) A knowledge of contemporary manufacturing issues	x	x	x	x	x	x
(k) An ability to use the techniques, skills, and modern engineering tools necessary for advanced manufacturing practice	x	x	x	x	x	x

List of courses where the Program Outcomes will be measured

Advanced Manufacturing Technology (4 yr. degree):

Program Outcomes	Courses	Performance Level: Competence or Mastery	Name of Faculty
(a) An ability to apply knowledge of mathematics, science, and manufacturing methods	IE-223 Design & Man. I IE-343 Design & Man. II AMT-401 Capstone	Competence	Dr. Vohnout

(b) An ability to design and conduct experiments as well as to analyze and interpret data	IE-433 Metrology & Inst AMT-412 Adv. Digital Insp	Competence	Dr. Vohnout
(c) An ability to design a manufacturing system, or process to meet desired production outcomes within realistic constraints such as manufacturability economic, environmental, social, political, ethical, health and safety, and sustainability	AMT-401 Capstone IE-223 Design & Man. I IE-343 Design & Man. II IE-463 Fac. Plan & Mat. H	Competence	Dr. Vohnout
(d) An ability to function on multidisciplinary teams	AMT-401 Capstone	Competence	Dr. Vohnout
(e) An ability to identify, formulate, and solve manufacturing problems	AMT-401-1 Capstone IE-223 Design & Man. I IE-343 Design & Man. II	Competence	Dr. Vohnout
(f) An understanding of professional and ethical responsibility	AMT-401-1 Capstone ENGR-123 Intro. To Engr.	Competence	Dr. Vohnout
(g) An ability to communicate effectively - written and orally.	AMT-401-1 Capstone ENG-112 Technical Res.& Writing	Competence	Dr. Vohnout
(h) The broader education necessary to understand the impact of manufacturing methods in a global, economic, environmental, and societal context	ENGR-143 Char. of Engr. Mat. IE-343 Design & Man. II	Competence	Dr. Vohnout
(i) A recognition of the need for, and an ability to engage in life-long learning	AMT-401 Capstone ME-305 Intro. To Dynamic Sys	Competence	Dr. Vohnout
(j) A knowledge of contemporary global issues	ENGR-123 Intro. To Engr.	Competence	Dr. Vohnout
(k) An ability to use the techniques, skills, and modern engineering tools	AMT-401 Capstone IE-223 Design & Man. I	Competence	Dr. Vohnout

necessary for advanced manufacturing practice	IE-343 Design & Man. II		

*All assessments are based on best current available information, current student performance, and continued support of critical teaching needs.

Automotive Technology Program Goals

The proposed A.A.S. in Automotive Technology would concentrate on the outcomes required in order for the Navajo Technical University's Automotive Technician program to become NATEF accredited. These expected outcomes are:

1. All students will complete test preparation for the National Institute for Automotive Service Excellence (ASE) exams, passing the practice tests with a high enough score to signify that they are prepared to become ASE certified. .
2. Students will demonstrate that they understand an ASE certified technician's responsibility to nature and the environment regarding shop waste disposal.
3. Students will demonstrate they have a basic understanding of Work Order Intake and Delivery processes.
4. Students will be able to describe how transportation is a huge global industry with a variety of employment opportunities.

Baking Program Goals

Navajo Technical University http://navajotech.edu
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Baking Program Goals

Mission

Our Baking mission is that we are committed to serve and support the success of our students through highly personalized instruction, guiding them through the Diné philosophy of education.

Name of Program: Professional Baking

Two-Year Program-Level Assessment Plan for One-year Program

Program Goals (Expected Program Outcomes)	2015	2016
1. Research and distinguish effective restaurant and patisserie operations including sustainable facilities, equipment, and evolving technologies.	x	
2. Employ leadership and supervision concepts with an emphasis on communication, cultural diversity, and positive guest relations.	x	
3. Analyze and integrate problem-solving techniques in a professional, ethical, and profitable business environment.	x	
4. Demonstrate core concepts in baking theory and methodology through hands-on development and sensory analysis of American and European style baking and pastry products.		x
5. Illustrate classical and contemporary pastry and confectionary techniques.		x
6. Demonstrate the planning, development, execution, and evaluation of products, menus, and creative presentations.		x

Three-Year Program-Level Assessment Plan for Two-year

Name of Program: Professional Baking

Program Goals (Expected Program Outcomes)	2015	2016	2017
1. Demonstrate core concepts in baking theory and methodology through hands-on development and sensory analysis of American and European style baking and pastry products.		x	
2. Illustrate classical and contemporary pastry and confectionary techniques.		x	
3. Demonstrate the planning, development, execution, and evaluation of products, menus, and creative presentations.		x	
4. Research and distinguish effective restaurant and patisserie operations including sustainable facilities, equipment, and evolving technologies.	x		x
5. Employ leadership and supervision concepts with an emphasis on communication, cultural diversity, and positive guest relations.	x		x
6. Analyze and integrate problem-solving techniques in a professional, ethical, and profitable business environment.	x		x

List of courses where the Program Goals (Expected Program Outcomes) will be measured

Name of Program: Professional Baking

Mission Statement for Biology Program:

Program Goals (Expected Program Outcomes)	Courses	Performance Level: Competence or Mastery	Name of Faculty
1. Demonstrate core concepts in baking theory and methodology through hands-on development and sensory analysis of American and European style baking and pastry products.	BKG 101 BKG 111	80%	Gail Shackelford
2. Illustrate classical and contemporary pastry and confectionary techniques.	BKG 101 BKG 111 BGK 201 BKG 202	80%	Gail Shackelford
3. Demonstrate the planning, development, execution, and evaluation of products, menus, and creative presentations.	BKG 101 BKG 111 BKG 201 BKG 202	80%	Gail Shackelford
4. Research and distinguish effective restaurant and patisserie operations including sustainable facilities, equipment, and evolving technologies.	BKG201 BKG 202 CUL 205 CUL 207	80%	Gail Shackelford
5. Employ leadership and supervision concepts with an emphasis on communication, cultural diversity, and positive guest relations.	CUL205 CUL 207 CUL 206	80%	Joe Chapa
6. Analyze and integrate problem-solving techniques in a professional, ethical, and profitable business environment.	CUL205 CUL 207 CUL 206	80%	JoeChapa

Program Goals for Biology

1. Students can demonstrate basic knowledge of the primary natural sciences of chemistry, biology and physics and appreciate their interrelationship.
2. Students can demonstrate knowledge of basic information and tools required to connect the many biological events to themes that pervade all of biology.
3. Students can demonstrate current knowledge and new developments that underlie biological concepts, explain how basic chemistry is enlivened by new concepts that connect this to cell structure, genetics, evolution, and other areas of biology.
4. Students recognize various disorders, understand them within the context of basic sciences and clinical specialties, appreciate their history, their feedback regulatory mechanisms, explain the

molecular processes underpinning them, and identify the relationship between their therapeutics and defects.

5. Students exhibit skills to interweave scientific concepts of local diseases like diabetes, with culturally congruent intervention programs.
6. Students exhibit research and healthcare capabilities based on essential hands-on learning opportunities for thorough understanding of biology experimentation or rehabilitations, and application of concepts needed for problems solving.
7. Students identify, explore and analyze ethical issues involving future difficult life and medical situations by evaluating and deciding on conflicting views bordering on relevant ethical issues.
8. Students communicate and present verbal, visual, written ideas and information clearly and accurately, in a way that represents competence and professionalism in health care field.
9. Students possess the skills to be successful in the MCAT or DAT test by obtaining the absolute maximum score possible.
10. Students exhibit the aptitude to access training, jobs and programs that foster growth in clinical health care experience.

Six-Year Program-Level Assessment Plan for a Baccalaureate Degree Program
Name of Program: Biology

List of courses where the Program Goals (Expected Program Outcomes) will be measured.

Name of Program: Biology

Program Goals (Expected Program Outcomes)	2018	2019	2020	2021	2022	2023
1. Students can demonstrate basic knowledge of the primary natural sciences of chemistry, biology and physics and appreciate their interrelationship.			x			x
2. Students can demonstrate knowledge of basic information and tools required to connect the many biological events to themes that pervade all of biology.			x			x
3. Students can demonstrate current knowledge and new developments that underlie biological concepts, explain how basic chemistry is enlivened by new concepts that connect this to cell structure, genetics, evolution, and other areas of biology.			x			x
4. Students recognize various disorders, understand them within the context of basic sciences and clinical specialties, appreciate their history, their feedback regulatory mechanisms, explain the molecular processes underpinning them, and identify the relationship between their therapeutics and defects.	x			x		
5. Students exhibit skills to interweave scientific concepts of local diseases like diabetes, with culturally congruent intervention programs.	x			x		
6. Students exhibit research and healthcare capabilities based on essential hands-on learning opportunities for thorough understanding of biology experimentation or rehabilitations, and application of concepts needed for problems solving.	x			x		
7. Students identify, explore and analyze ethical issues involving future difficult life and medical situations by evaluating and deciding on conflicting views bordering on relevant ethical issues.	x			x		
8. Students communicate and present verbal, visual, written ideas and information clearly and accurately, in a way that represents competence and professionalism in health care field.		x			x	
9.Students possess the skills to be successful in the MCAT or DAT test by obtaining the absolute maximum score possible.		x			x	
10. Students exhibit the aptitude to access training, jobs and programs that foster growth in clinical health care experience.		x			x	

Program Goals (Expected Program Outcomes)	Courses	Performance Level: Competence or Mastery	Name of Faculty
1. Students can demonstrate basic knowledge of the primary natural sciences of chemistry, biology and physics and appreciate their interrelationship.			
2. Students can demonstrate knowledge of basic information and tools required to connect the many biological events to themes that pervade all of biology.			
3. Students can demonstrate current knowledge and new developments that underlie biological concepts, explain how basic chemistry is enlivened by new concepts that connect this to cell structure, genetics, evolution, and other areas of biology.			
4. Students recognize various disorders, understand them within the context of basic sciences and clinical specialties, appreciate their history, their feedback regulatory mechanisms, explain the molecular processes underpinning them, and identify the relationship between their therapeutics and defects.			
5. Students exhibit skills to interweave scientific concepts of local diseases like diabetes, with culturally congruent intervention programs.			
6. Students exhibit research and healthcare capabilities based on essential hands-on learning opportunities for thorough understanding of biology experimentation or rehabilitations, and application of concepts needed for problems solving.			
7. Students identify, explore and analyze ethical issues involving future difficult life and medical situations by evaluating and deciding on conflicting views bordering on relevant ethical issues.			

8. Students communicate and present verbal, visual, written ideas and information clearly and accurately, in a way that represents competence and professionalism in health care field.			
9.Students possess the skills to be successful in the MCAT or DAT test by obtaining the absolute maximum score possible.			
10. Students exhibit the aptitude to access training, jobs and programs that foster growth in clinical health care experience.			

Building Information Modeling Program Goals

Program-Level Assessment Plan for **Associate of Applied Science Degree Program**

Name of Program: **Building Information Modeling (B.I.M.)**

The mission for the A.A.S. Building Information Modeling program is to prepare students with hands-on skills and knowledge in BIM management, technical skills, and sustainable building material products. Students will become efficient and skillful, creating 2D/3D models from point cloud data utilizing Autodesk-Revit, Autodesk-AutoCAD, Autodesk-ReCAP, and FARO-Scene software. Students are encouraged to explore and layer additional software to strengthen their methodologies, applications, and portfolio.

Striving to extent student's educational goals and experiences beyond in-class assignments and develop collaborative educational pathways/projects/internships with local organizations and academic institutions. Students are prepared for network opportunities with surrounding employers to strengthen their communication skills, network capacity, and plan for their future career after NTU.

Program Goals for Building Information Modeling	2015	2016	2017
1. Work competently in a variety of BIM, AutoCAD and laser scanning environments	X		
2. Conceptualize and implement efficient BIM, AutoCAD, and laser scanning methods utilizing drafting techniques	X		
3. Self-evaluate accurate drafting measurements/applications, and communication output(s)		X	

4. Present quality written, oral, and visual communication skills displaying detailed information and ideas in a clean and organized presentation		X	
5. Examine and participate in group assignments to build effective collaboration skills and comfort			X
6. Develop self-direct projects and master 2D/3D software and laser scanning applications to present creative, technical, and critical methods			X

Program Goals (Expected Program Outcomes)	**Courses**	**Performance Level: Competence or Mastery**	**Name of Faculty**
1. Work competently in a variety of BIM, AutoCAD and laser scanning environments	DFT120, DFT220, DFT112, DFT212, IT311, DFT 250	80 percent	Elisha Wortham
2. Conceptualize and implement efficient BIM, AutoCAD, and laser scanning methods utilizing drafting techniques	DFT120, DFT220, DFT112, DFT212, IT311	80 percent	Elisha Wortham
3. Self-evaluate accurate drafting measurements/applications, and communication output(s)	DFT120, DFT220, DFT112, DFT212	80 percent	Elisha Wortham
4. Present quality written, oral, and visual communication skills displaying detailed information and ideas in a clean and organized presentation	DFT120, DFT220, DFT112, DFT212, IT31, GIT101	80 percent	Elisha Wortham, Ramsey Seweingyawwa
5. Examine and participate in group assignments to build effective collaboration skills and comfort	DFT120, DFT220, DFT112, DFT212, IT31, GIT101	80 percent	Elisha Wortham, Ramsey Seweingyawwa
6. Develop self-direct projects and master 2D/3D software and laser scanning applications to present creative, technical, and critical methods	DFT120, DFT220, DFT112, DFT212, IT31, GIT101, DFT 240, DFT 198, DFT 250	80 percent	Elisha Wortham, Ramsey Seweingyawwa

Carpentry Program Goals

One-Year Program-Level Assessment Plan for a Certificate Program
Name of Program: Carpentry
***Mission Statement:* The mission of the N.T.U. carpentry program is to provide training to prepare students for apprentice level employment in the residential or light-commercial building industry.**

Program Goals (Expected Program Outcomes)	2015	2016
1. Student will demonstrate the use of hand & power tools in a safe and appropriate manner.	x	
2. Identify various types of building materials and their uses.	x	
3. Identify different types of framing systems	x	
4. *Be able to identify and solve problems related to carpentry operations.*		x
5. *Be able to construct the common elements of residential and commercial carpentry to building code standard.*		x
6. *Be able to complete the planning and analysis that is required for construction project.*		x

List of courses where the Program Goals (Expected Program Outcomes) will be measured
Name of Program: Carpentry

Program Goals (Expected Program Outcomes)	Courses	Performance Level: Competence or Mastery	Name of Faculty
1. Student will demonstrate the use of hand & power tools in a safe and appropriate manner.	CT100	competence	Jones Lee and Tom Bebo
2. Identify various types of building materials and their uses.	CT112	competence	Jones Lee and Tom Bebo
3. Identify different types of framing systems	CT110	competence	Jones Lee and Tom Bebo
4. *Be able to identify and solve problems related to carpentry operations.*	CT114	competence	Jones Lee and Tom Bebo
5. *Be able to construct the common elements of residential and commercial carpentry to building code standard.*	CT103	competence	Jones Lee and Tom Bebo

6. *Be able to complete the planning and analysis that is required for construction project.*	CT114	competence	Jones Lee and Tom Bebo

Chemical Engineering Program Goal

Chemical Engineering A.S.S. Degree Program Assessments Matrix

Mission

The principle mission of the Associate of Applied Science in Chemical Engineering program is to prepare Graduate Chemical Technicians for enter professional chemical engineering technician practice where they contribute within their community.

Vision

The Chemical Engineering faculty supports students in succeeding their professional goals, while promoting life-long learning and excellence in professional chemical technicians.

Program Educational Objectives (PEO's)

Chemical Engineering A.A.S. program educational objectives (PEO's) are established in direction of the, Program and NTU Missions and Visions, to accomplish student-learning outcomes (SO's) that address what students are expected to know and can do by the conclusion of their degree program, and prepare them for the postgraduate activities. These program objectives are intended to produce versatile chemical engineering graduates who:

1) Will be able to obtain a career as a technician in local or national chemical/industrial field that requires understanding the basic analysis and design of chemical process, unit operations, equipment and systems.

2) Will be able to identify, formulate, and solve basic engineering, math, science and computer technology in chemical engineering.

3) Will act as a liable member of the Dine society through continuous professional, educational, ethical and economic development, and quality, life-long learning based on the Dine cultural principles.

ABET Criterion 3 Student Outcomes (a-i) for Associate Degree Programs

General Criterion 3: Student Outcomes (SO's)

Student outcomes define what students are expected to know and can do by the time of conclusion. These relate to the skills, knowledge, and conducts that students achieve as they progress through the program. (ETAC-ABET Criteria for Accrediting Engineering Technology Programs).

The program should have documented student outcomes that prepare graduates to attain the Program Educational Objectives (PEO's). There must be a documented and efficient process for the periodic review and evaluation of these student outcomes.
Therefore, the purposes of this section include a broadly defined activity which involve a selection of resources; that involve the use of new processes, materials, or techniques in innovative ways; and that require knowledge of standard effective procedures.

The Chemical Engineering Technology AAS program in the School of Engineering, Math& Technology at NTU, presents information and learning experience to students. These form the basis for specific capabilities that students should be able to prove prior to graduation. These abilities agree with ABET criterion 3 (a) through (i) requirements as presented below:

For Associate Degree Programs, the ABET student outcomes (SO's) must include, but are not limited to, the following learned capabilities:

a. An ability to apply the knowledge, techniques, skills, and modern tools of the discipline to narrowly defined engineering technology activities;

b. An ability to apply knowledge of mathematics, science, engineering, and technology to engineering technology problems that require limited application of principles but extensive practical knowledge;

c. An ability to conduct standard tests and measurements, and to conduct, analyzes, and interprets experiments;

d. An ability to function effectively as a member of a technical team;

e. An ability to identify, analyzes, and solves narrowly defined engineering technology problems;

f. An ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature;

g. An understanding of the need for and an ability to engage in self-directed continuing professional development;

h. An understanding of and a commitment to address professional and ethical responsibilities, including a respect for diversity; and

i. A commitment to quality, timeliness, and continuous improvement.

Name of Program: A.S.S. Degree in Chemical Engineering
List of courses where the Program Goals (Expected Program Outcomes) will be measured

Program Goals (Expected Program Outcomes)	ABET Student Outcomes	2015	2016	2017
1. Will be able to obtain a career as a technician in local or national chemical/industrial field that requires understanding the basic analysis and design of chemical process, unit operations, equipment and systems.	a, c, d, e,		a, c, d, e,	a, c, d, e
2. Will be able to identify, formulate, and solve basic engineering, math, science and computer technology in chemical engineering.	a, b, e		a, b, e	a, b, e
3. Will act as a liable member of the Dine society through continuous professional, communications, educational, ethical and economic development, life-long learning based on the Dine cultural principles.	d, f, g, h, i		d, f, g, h, i	d, f, g, h, i

Name of Program: A.S.S. Degree in Chemical Engineering

Program Goals (Expected Program Outcomes)	Courses	Performance Level: Competence or Mastery	Name of Faculty
1. Will be able to obtain a career as a technician in local or national chemical/industrial field that requires understanding the basic analysis and design of chemical process, unit operations, equipment and systems.	CHEME 115 CHEME 130 CHEME 223 CHEME 117	Competency	Dr. Ehteshami
2. Will be able to identify, formulate, and solve basic engineering, math, science and computer technology in chemical engineering.	CHEME 115 CHEME 202	Competency	Dr. Ehteshami
3. Will act as a liable member of the Dine society through continuous professional, educational, ethical and economic development, quality, life-long learning based on the Dine cultural principles.	CHEME 224 CHEME 230	Competency	Dr. Ehteshami

Computer Science Program Goals

One-Year Program-Level Assessment Plan for a Certificate Program

Name of Program: Computer Science

Program Goals (Expected Program Outcomes)	2015	2016
1. Students will be able to write basic sequential programs		x
2. Students will be able to think creatively		x
3. Students will be able to communicate effectively.		x

List of courses where the Program Goals (Expected Program Outcomes) will be measured.

Program Goals (Expected Program Outcomes)	Courses	Performance Level: Competence or Mastery	Name of Faculty
1. Students will be able to write basic sequential programs.	CS 100, CS 200	Competence	Stomp
2. Students will be able to think creatively.	CS 120	Competence	Stomp
3. Students will be able to communicate effectively	ENG 110	Competence	Irvin Morris and Dr. Mooore

Construction Technology Program Goals

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Construction Technology
Program Mission and Goals

Mission:

The mission of Construction Technology Program at Navajo Technical University is to provide students with quality learning opportunities, gain knowledge, practice skills, and develop the abilities needed in residential and commercial construction adhering to industry standards and safety guidelines.

Goals:

1. Employ effective and appropriate communication skills when interacting with trade associates, design associates, vendors and customers.
2. Apply decision-making and problem-solving skills in community and workplace.
3. Practice ethical standards of business conduct and professional services.
4. Ability to use efficient and safe construction skills and techniques on construction projects.
5. Ability to use different construction technology power and hand tools and equipment professionally.
6. Proficient use of computer technology to automate, organize, store and present information used in construction activities and career advancement

Assessment Plan for Certificate in Construction Technology:

Program Goals (Expected Program Outcomes)	Spring 2015	Fall 2016
1. Employ effective and appropriate communication skills when interacting with trade associates, design associates, vendors and customers.	x	
2. Apply decision-making and problem-solving skills in community and workplace.	x	
3. Practice ethical standards of business conduct and professional services.	x	
4. Ability to use efficient and safe construction skills and techniques on construction projects.		x
5. Ability to use different construction technology power and hand tools and equipment professionally.		x
6. Proficient use of computer technology to automate, organize, store and present information used in construction activities and career advancement.		x

Counseling Program Goals

Associate Degree in Counseling

Mission Statement

The Counseling program is to help students develop foundational skills to work in the helping professions, especially to work in entry level jobs with Navajo Nation Behavioral Systems. The program provides a foundation in psychological theories and techniques to assess behavioral information and implement solutions to help individuals and families, with emphasis in addiction counseling, and suicide prevention, treatment and postvention.

Program-Level Assessment Plan for an Associate Degree in Counseling
Name of Program: Counseling

Program Goals (Expected Program Outcomes)	2018	2019	2020
1. Students will demonstrate a strong understanding of the history and theories of counseling and psychotherapy.	X		
2. Students will demonstrate an overview of the field of social sciences, especially psychology		X	
3. Students will analyze theories, models, and contemporary issues related to substance use disorders and treatment		X	X
4. Students will demonstrate the ability to select components of theories to incorporate into one's own model of counseling.		X	X
5. Students will observe and demonstrate clinical interviews and assessment skills utilizing varied human relation skills, such as basic listening, role playing, etc.	X		X
6. Students will demonstrate skills to conduct risk assessments for crisis, suicide, and other mental health issues	X		
7. Students will demonstrate strong knowledge in crisis and suicide prevention, education, and postvention in Native populations locally, nationally and globally.		X	X
8. Students will engage in counseling internship programs		X	X

Program-Level Assessment Plan for an Associate Degree in Counseling

Program Goals (Expected Program Outcomes)	Courses	Performance Level: Competence or Mastery	Name of Faculty
1. Students will demonstrate a strong understanding of the history and theories of counseling and psychotherapy.	COU 101 Introduction to Counseling Theories	80 percent	Carlos Baki
2. Students will demonstrate an overview of the field of social sciences, especially psychology.	PSY 105 Introduction to Psychology	80 percent	Carlos Baki
3. Students will analyze theories, models, and contemporary issues related to substance use disorders and treatment.	COU 106 Counseling Substance Abuse	80 percent	Carlos Baki
4. Students will analyze theories, models, and contemporary issues related to intervention and treatment.	COU 101 Introduction to Counseling Theories	80 percent	Carlos Baki
5. Students will observe and demonstrate clinical interviews and assessment skills utilizing varied human relation skills, such as basic listening, role-playing, etc.	COU 145	80 percent	Dr. Peter Goldbum
6. Students will demonstrate skills to conduct risk assessments for crisis, suicide, and other mental health issues	COU 220 and COU 250	80 percent	Dr, Bruce Bongar Dr. Peter Goldbum
7. Students will demonstrate strong knowledge in crisis and suicide prevention, education, and postvention in Native populations locally, nationally and globally.	COU 285	80 percent	Dr. Peter Goldblum
8. Students will engage in counseling internship programs	COU 110 and 290 Internship	80 percent	Carlos Baki Dr, Bruce Bongar

Creative Writing and New Media Program Goals

Graduates of the Creative Writing & New Media Program will:

1. Understand craft terms and concepts and be able to articulate how these aspects of craft contribute to well-crafted and compelling works of literary merit.
2. Be able to manipulate craft elements in writing and revising a story, essay, poem, or script.

3. Have knowledge of significant currents in contemporary fiction, poetry, prose, or script writing.
4. Be able to trace the development of the current literary landscape and contextualize one's work within it.
5. Be able to employ a writing process that recursively progresses through drafting, peer and instructor feedback, reflection, revising, and editing.
6. Produce a manuscript of marketable quality, and then create a digital media product from the finished manuscript.
7. Be able to conceptualize, implement, and evaluate substantial, meaningful, and purposeful projects using digital media techniques.
8. Be able to work competently and collaboratively in a variety of digital media environments.

Culinary Program Goals

Upon completion of a Culinary degree, the graduates will develop competencies in:

1. Food preparation skills necessary for a variety of culinary operations.
2. Organizational skills in planning and documenting food production activities and the ability to implement and maintain cost and quality controls to meet operational goals of the various service areas.
3. Emerging management skills including leadership necessary for building and maintaining a food service team.
4. Effective communication skills integral to maintaining good relationship with both co-workers and customers.
5. Technology skills applicable to current food service operations.

Diné Studies Program Goals

DINÉ STUDIES
MISSION STATEMENT

The School of Diné Studies

The program exists to implement acquired skills in Diné Language, Culture and History and to prepare students for employment as teachers, researchers, and writers in educational institutions and communities.

Program Goals (Expected Program Outcomes)	2015	2016	2017	2018	2019	2020
1. Interact Effectively in Diverse Environments: Students will be involved in campus activities that focus on Dine Language, Culture and history and take leadership at those gatherings.			x			x
2. Interact Effectively in Diverse Environments: Students will engage in intensive research and seminars related to education in K-12 schools, undergraduate and graduate studies.			x			x
3. Interact Effectively in Diverse Environments: Students will be given opportunity to implement newly acquired skills in classes and University sponsored events and activities.			x			x
4. Learn Actively: --Take personal responsibility for learning. --Set up an educational portfolio --digital records of posters developed in class --Take good notes in class --Having excellent attendance in all classes --Oral presentations and PowerPoint presentations --Keep close touch with professor for missed class work --maintain good grades --Join study group, or help tutoring assistance	x			x		
5. Learn Actively: --Develop Strategies to reach personal and academic goals. --Develop a study schedule --Learn how to take a test --Learn the art of study skills for college success	x			x		
6. Learn Actively: The student should understand and practice the concept of Diné Philosophy of Education. Every student will be encouraged to discuss the General Education requirements, and the core courses, and educational degree checklist at the beginning of every semester.	x			x		

Navajo Technical University

Program Goals (Expected Program Outcomes)	Courses	Performance Level: Competence or Mastery	Name of Faculty
1.Students will be involved in campus activities that focus on Dine Language, Culture and history and take leadership at those gatherings.	NAV101,102,201,202,301302,401,402,250 NAV211,212,221 NAV110,210,225,410,411	80%	Dr. Platero Dr. Kiser L. Chicag B. Yazzie
2. Students will engage in intensive research and seminars related to education in K-12 schools, undergraduate and graduate studies.	NAV101,102,201,202,301302,401,402,250 NAV211,212,221 NAV110,210,225,410,411	80%	Dr. Platero Dr. Kiser L. Chicag B. Yazzie
3. Students will be given opportunity to implement newly acquired skills in classes and University sponsored events and activities.	NAV101,102,201,202,301302,401,402,250 NAV211,212,221 NAV110,210,225,410,411	80%	Dr. Platero Dr. Kiser L. Chicag B. Yazzie
4. Take personal responsibility for learning set up an educational portfolio; digital records of posters developed in class; take good notes in classs; and have excellent attendance in all classes. Give oral presentations and PowerPoint presentations;	NAV101,102,201,202,301302,401,402,250 NAV211,212,221 NAV110,210,225,410,411	80%	Dr. Platero Dr. Kiser L. Chicag B. Yazzie
5. Develop Strategies to reach personal and academic; study schedule; learn how to take a test and the art of study skills for college success	NAV101,102,201,202,301302,401,402,250 NAV211,212,221 NAV110,210,225,410,411	80%	Dr. Platero Dr. Kiser L. Chicag B. Yazzie
6. The student should understand and practice the concept of Diné Philosophy of Education. Every student will be encouraged to discuss the General Education and the core course requirements and maintain graduation/degree checklist at the beginning of every semester.	NAV101,102,201,202,301302,401,402,250 NAV211,212,221 NAV110,210,225,410,411	80%	Dr. Platero Dr. Kiser L. Chicag B. Yazzie
7. Students will experience the study of the scientific aspects of Language	NAV 250,	80%	Dr. Platero Dr. Kiser
8. Students will learn Navajo linguistics	NAV 250, 401, 402	80%	Dr. Platero Dr. Kiser

School of Graduate Studies & Research

DINÉ CULTURE, LANGUAGE & LEADERSHIP (M.A. DEGREE)

MISSION STATEMENT

The Navajo Technical University's School of Graduate Studies & Research is strongly committed to providing advanced quality education on culture, language and leadership while training academic- based Indigenous researchers and educators for their nation and communities.

PROGRAM ASSESSMENT PLAN

PROGRAM GOALS	2015	2016	2017	2018	2019	2020
Maintain the established infrastructure to stabilize and sustain the Program	X					
Do environmental scan of employment for the upcoming graduates		X				
Sustain program competently and do collaborative research for the Navajo Nation		X				
In consultation with students, the MA program will review and implement improvements for the scientific study of the Diné language through students' and faculty evaluation and feedback.			X			
Secure finances to fully operate the graduate degrees			X			
Enroll a cohort of at least ten students into the Master of Art degree program in 2017 Fall Semester and streamline for graduation			X			
In consultation with graduate students and faculty, the proposed program will finalize the development of the Doctorate degree (Ph.D.) program of study and implement for 2018 Fall Semester			X			
The program will conduct evaluations of the MA and doctorate degrees among graduate students and faculty and adjust according to need for improvements					X	
The program will conduct evaluations of the MA and doctorate degrees among graduate students and faculty and adjust according to need						X

Early Childhood Program Goals

Early Childhood

Mission Statement

Educate students to become proficient in Early Childhood Profession, to advocate for their safety, health and well-being of all young children from birth to eight years old. To have students learn and demonstrate the core competencies using the Navajo Philosophy of Learning so they can interact effectively with children.

Name of Program: Early Childhood, B.S.

Program Goals (Expected Program Outcomes)	Courses	Performance Level: Competence or Mastery	Name of Faculty
1. Create and evaluate an early childhood program that uses the psychological and theoretical foundations of children from pre-birth through age eight.	ECM 490 – Teaching & Learning Practicum	Competence	Dr. Juanita Becenti
2. Demonstrate competency in pedagogical processes of teaching, learning, and assessment with an emphasis in terminology, theories, and methodologies.	ECM 490 – Teaching & Learning Practicum ECM 428 – Teaching & Learning Reading & Writing ECM 493 – Student Teaching Seminar ECM495 – Student Teaching	Competence	Dr. Juanita Becenti
3.Demonstrate knowledge of basic principles of administration, organization, and operation of early childhood programs and classrooms	ECM 490 – Teaching & Learning Practicum ECM 428 – Teaching & Learning Reading & Writing ECM 493 – Student Teaching Seminar ECM495 – Student Teaching	Competence	Dr. Juanita Becenti
4. Demonstrate knowledge of varying program models, curriculum and learning environments that meet the individual needs of all young children.	ECM 490 – Teaching & Learning Practicum ECM 428 – Teaching & Learning Reading & Writing ECM 493 – Student Teaching Seminar ECM495 – Student Teaching	Competence	Dr. Juanita Becenti
5. Implement Navajo philosophy and culture into the pedagogical process of Nitsahakees, Nahat'a, Iina, Siih Hasin,	ECM 490 – Teaching & Learning Practicum	Competence	Dr. Juanita Becenti

along with Sa'ah Naahgaii Bi'keh Hozhoogi into the pedagogical process.	ECM 428 – Teaching & Learning Reading & Writing ECM 493 – Student Teaching Seminar ECM495 – Student Teaching		

Two-Year Program-Level Assessment Plan for an Associate Degree Program

Program Goals (Expected Program Outcomes)	2015	2016	2017
1. Create and evaluate an early childhood program that implement the psychological and theoretical foundations of children from pre-birth through age eight.		Della	X
2. Demonstrate competency in pedagogical processes of teaching, learning, and assessment with an emphasis in terminology, theories, and methodologies.	Della		X

Electrical Engineering

Six-Year Program-Level Assessment Plan for a Baccalaureate Degree Program
Electrical Engineering (B.S.)

Program Outcomes	2016	2017	2018	2019	2020	2021
(a) An ability to apply knowledge of mathematics, science, and engineering	x			x		
(b) An ability to design and conduct experiments as well as to analyze and interpret data	x			x		
(c) An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability			x			x
(d) An ability to function on multidisciplinary teams		x			x	
(e) An ability to identify, formulate, and solve engineering problems	x			x		
(f) An understanding of professional and ethical responsibility		x			x	
(g) An ability to communicate effectively		x			x	
(h) The broader education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context			x			x
(i) A recognition of the need for, and an ability to engage in life-long learning			x			x
(j) A knowledge of contemporary issues			x			x
(k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	x			x		

Performance Indicators	Educational Strategies	Method(s) of Assessment	Where data are collected (summative)	Length of assessment cycle (yrs)	Year(s) / semester of data collection	Target for Performance

Chooses a mathematical model of a system or process appropriate for required accuracy	EE101, ENGR103, EE102, EE103, EE201, EE202, EE203, EE212, EE301, EE302, EE303, EE304, EE310, EE312, EE320, EE406, EE423	Senior Design Project	EE 423	3 years	2016, 2017	80 %
		Senior Survey	On-line survey			
Applies mathematical principles to achieve analytical or numerical solution to model equations	EE101, ENGR103, EE102, EE103, EE201, EE202, EE203, EE212, EE301, EE302, EE303, EE304, EE310, EE312, EE320, EE406, EE423	Faculty developed examination	EE 423	3 years	2016, 2017	80 %
		Senior Survey	On-line survey			
Examines approaches to solving an engineering problem in order to choose the more effective approach	EE101, ENGR103, EE102, EE103, EE201, EE202, EE203, EE212, EE301, EE302, EE303, EE304, EE310, EE312, EE320, EE406, EE423	Senior Project report analysis using rubric	EE 423	3 years	2016, 2017	80 %

Electrical Trades Program Goals

One-Year Program-Level Assessment Plan for One-year Programs

Name of Program: *Electrical Trades*

Program Mission Statement

"To educate our students and provide them with the skills needed to meet high standards of excellence in Residential and Commercial wiring. To teach and pass along the knowledge gained through our hands-on training and expertise of employment."

Program Goals (Expected Program Outcomes)	2016	2017
1. *Teach the students on using the correct method of electrical tool usage and how to take care of them.*	x	
2. *Understand and demonstrate the meaning of branch circuitry and calculations to find the loads. Find the amperes, volts, ohms, and watts by using Ohm's Law and Watt's Law.*	x	
3. *Develop safety ethics and habits where safety is priority working with electricity. To ensure and demonstrating in the lab area.*	x	
4. *Students will solve how to use the correct wires for installing electrical equipment by using electrical math.*		x
5. *Demonstrate conduit bending and how trigonometry is used in bending conduit.*		x
6. *Student will interpret how to read "Blueprints drawings" and apply them to their work.*		x

List of courses where the Program Goals (Expected Program Outcomes) will be measured

Name of Program:

Program Goals (Expected Program Outcomes)	Courses	Performance Level: Competence or Mastery	Name of Faculty
1. *Understand and demonstrate the meaning of branch circuitry and calculations to find the loads. Find the amperes, volts, ohms, and watts by using Ohm's Law and Watt's Law.*	*Electrical Level I ELC-101-1*	*Electrical Level I 70 Percent*	*Jmichael R. Crank Virgil T. House Norman Lameman*
2. *Teach the students on using the correct method of electrical tool usage and how to take care of them.*	*Electrical Trades Lab I ELC-102-1*	*Electrical Level I 70 Percent*	*Jmichael R. Crank Virgil T. House*
Teach the students on using the correct method of electrical tool usage and how to take care of them.	*Electrical Trades Lab I ELC-102-2*	*Electrical Level I 70 Percent*	*Jmichael R. Crank Virgil T. House*
3. *Develop safety ethics and habits where safety is priority working with electricity. By ensuring and demonstrating in the lab area.*	*Electrical Theory II ELC-111-1*	*Electrical Level I 70 Percent*	*Jmichael R. Crank Virgil T. House*
4. *Students will have an understanding of math that is used for electrical installations (such as electrical math)*	*Electrical Trades Lab II ELC-112-1*	*Electrical Level I 70 Percent*	*Jmichael R. Crank Virgil T. House*
5. *Demonstrate conduit bending and how trigonometry is used in bending conduit.*	*Commercial Wiring ELC-111-1*	*Electrical Level I 70 Percent*	*Jmichael R. Crank Virgil T. House*
6. *Student will interpret how to read "Blueprints drawings" and apply them to their work.*	*Residential/Commercial Blueprint*	*Electrical Level I 70 Percent*	*Jmichael R. Crank Virgil T. House*

	Reading ELC-113-1		
7. ***Understand the importance of safe and reliable renewable energy installations; understand how to interpret code requirements; ensure safeguards that prevent hazards that may arise from the use of electricity***	***National Electrical Code Exam Prep ERS-114-1***	***80 Percent***	***Raymond R. Griego***
8. ***Correctly calculate energy needs and loads for renewable systems. Integrate wind turbines, photovoltaic or a combination of a hybrid wind and photovoltaic into buildings***	***Electrical Mathematics ERS-104-1***	***80 Percent***	***Raymond R. Griego***

Energy Systems Program Goals

Energy Systems
Mission Statement

The design and construction of photovoltaic, wind, and solar systems will enable students to supplement their existing energy needs at home, community and the Navajo Nation.
While students study the transformation of energy they will have an opportunity to explore components of science, mathematics, technology and engineering. The earth's rotation, the seasons of fall, winter, spring and summer are major factors on how to determine the amount of energy from the sun. Once students learn the science they can begin to collect/examine data, (energy from the sun) and how it can mathematically equate to our regional setting, (latitude, the correct angle tilt of photovoltaic arrays); and the technology to design, operate, and maintain equipment to maximize energy output that can result from engineering theories.

Goals

1. Ensure the relevance and importance of energy and how it impacts the environment; demonstrate the understanding of solar radiation.

2. Prepare students to meet the challenges of becoming involved in promoting and understanding the science of renewable energy, especially, at a time of increased fuel prices and global warming. Demonstrate an understanding of how electricity is produced by a photovoltaic cell.

3. Demonstrate and understand the importance of safe and reliable renewable energy installations; identify/interpret the correct code requirements; ensure safeguards that prevent hazards that may arise from the use of electricity.

4. Correctly calculate energy needs and loads for renewable systems. Demonstrate an understanding of how a typical photovoltaic system works.

5. Offer opportunities in the areas of job placement and internships

6. Implement practical renewable energy installations throughout the campus. Installation shall have the capabilities to produce electrical energy. Safe, reliable, and visible systems will require students to incorporate science, mathematics, technology, engineering that integrates into the design, construction or fabrication of installations.

Environmental Science Program Goals

Graduates of Environmental Science and Natural resources will be trained to produce the following expected outcomes:

1. Demonstrate a thorough competence in understanding the geological factors affecting the management of the environment, and the structure, and function of biological ecosystems.
2. Develop the capacity and the commitment to understand current environmental issues from an interdisciplinary perspective by integrating insights and information from natural sciences, social sciences, and humanities.
3. Recognize environmental problems as existing across the margins of scientific, political, and human factors.
4. Demonstrate a thorough competence in understanding quantitative and qualitative research methods as applied to questions related to Environmental Science and Natural resources.
5. Be informed about pursuing career opportunities, professional development, and further studies in environmental programs.
6. Demonstrate a complete understanding of effective oral and written communication necessary to construct, evaluate, and present solutions to environmental problems.

General Studies Program Goals

Three-Year Program-Level Assessment Plan for an Associate Degree Program
Name of Program: General Studies

The purpose of the General Studies Program is to provide a flexible degree program format that allows adult learners to complete their degree by attending classes that focus primarily on general education courses yet provide insight into a variety of potential academic pathways. By obtaining an Associate's of Arts Degree in General Studies, graduates will improve their overall educational level, become better connected to their culture and more aware of other cultures, more employable, and/or move into a better paying position. Additionally, students may apply the general education credits they earn to a four-year college or University program either at NTU or elsewhere for the bachelorette degree. A minimum of sixty-one academic credits must be earned in specified coursework.

Name of Program: General Studies

Program Goals (Expected Program Outcomes)	2017	2018	2019
1. To demonstrate **active learning** by enrolling 5 students per semester to the program	x		
2. To demonstrate **active learning** with an 80% retention rate	x	x	x
3. To improve students' ability to **think critically, creatively, and reflectively**		x	
4. To increase cultural diversity awareness so students can **interact effectively in diverse environments**			x

List of courses where the Program Goals (Expected Program Outcomes) will be measured.

Program Goals (Expected Program Outcomes)	Courses	Performance Level: Competence or Mastery	Name of Faculty
1. To demonstrate **active learning** by enrolling 5 students per semester to the program	All	80%	All who teach these Gen. Ed courses.
2. To demonstrate **active learning** with an 80% retention rate	All	80%	All who teach these Gen. Ed courses.
3. To improve students' ability to **think critically, creatively, and reflectively**	All	80%	All who teach these Gen. Ed courses.
4. To increase cultural diversity awareness so students can **interact effectively in diverse environments**	All	80%	All who teach these Gen. Ed courses.

Geographic Information Technology (GIT) Program Goals

Graduates of GIT will have the following skills, attributes, and values:

1. Graduates of GIT should be able to demonstrate a mastery of geographic analysis and cartographic skills.
2. Graduates will be able to communicate the GIT project process and the results in written, oral, and graphic media at a professional level.
3. Understand the spatial aspects of an external clients' GIT needs and develop a practical project plan for addressing those needs.
4. Students will be able to design, compile, and develop a spatial database and a set of analytical tools into a system appropriate to the problem.

Industrial Engineering Program Goals

Mission Statement for Industrial Engineering

To provide the best possible education and resources to help students achieve a Bachelor's degree in Industrial Engineering and the opportunities that accompany that degree.

Six-Year Program-Level Assessment Plan for a Baccalaureate Degree Program

Name of Program: Industrial Engineering (B.S.)

Program Goals (Program Outcomes)	2016	2017	2018	2019	2020	2021
(a) An ability to apply knowledge of mathematics, science, and engineering	x			x		
(b) An ability to design and conduct experiments as well as to analyze and interpret data	x			x		
(c) An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability			x			x
(d) An ability to function on multidisciplinary teams		x			x	
(e) An ability to identify, formulate, and solve engineering problems	x			x		
(f) An understanding of professional and ethical responsibility		x			x	
(g) An ability to communicate effectively		x			x	
(h) The broader education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context			x			x
(i) A recognition of the need for, and an ability to engage in life-long learning			x			x
(j) A knowledge of contemporary issues			x			x
(k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	x			x		

List of courses where the Program Goals (Outcomes) will be measured

Name of Program: Industrial Engineering

Program Outcomes	Courses	Performance Level: Competence or Mastery	Name of Faculty
(a) An ability to apply knowledge of mathematics, science, and engineering	IE 413, IE 453	Mastery	Whiting & Stomp
(b) An ability to design and conduct experiments as well as to analyze and interpret data	IE 223, IE 323, IE 343, IE 363	Mastery	Agbaraji & Whiting
(c) An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability	IE 223, IE 323, IE 343, IE 363	Mastery	Agbaraji & Whiting
(d) An ability to function on multidisciplinary teams	IE 223, IE 323, IE 343, IE 363	Competence	Agbaraji & Whiting
(e) An ability to identify, formulate, and solve engineering problems		Mastery	
(f) An understanding of professional and ethical responsibility		Competence	
(g) An ability to communicate effectively			
(h) The broader education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context		Competence	
(i) A recognition of the need for, and an ability to engage in life-long learning		Competence	
(j) A knowledge of contemporary issues		Competence	
(k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice		Competence	

Student Outcomes:	a	b	c	d	e	f	g	h	i	j	k
ENGR-123: Computer Skills for Engineering							2017/ 2020		2018/ 2021		2019/ 2022
ENGR-103: Introduction to Engineering	2019/ 2022			2017/ 2020	2019/ 2022	2017/ 2020	2017/ 2020	2018/ 2021	2018/ 2021	2018/ 2021	2019/ 2022
ENGR-130: Engineering Graphics	2019/ 2022						2017/ 2020				2019/ 2022
ENGR-169 Basic Statistics and Probability	2019/ 2022										
ENGR-143: Characteristics of Engineering Mat'ls	2019/ 2022				2019/ 2022						
ENGR-230: Advanced Engineering Graphics	2019/ 2022						2017/ 2020				2019/ 2022
ENGR-236: Inferential Engineering Statistics	2019/ 2022	2019/ 2022			2019/ 2022		2017/ 2020				2019/ 2022
IE-223: Design & Manufacturing Processes I	2019/ 2022		2018/ 2021		2019/ 2022			2018/ 2021			2019/ 2022
ME-345: Statics	2019/ 2022		2018/ 2021		2019/ 2022						2019/ 2022
ENGR-313: Engineering Economics	2019/ 2022		2018/ 2021		2019/ 2022		2017/ 2020	2018/ 2021		2018/ 2021	2019/ 2022
ME-353: Fluid Mechanics	2019/ 2022		2018/ 2021		2019/ 2022						2019/ 2022
IE-323: Human Factors in Product Design	2019/ 2022	2019/ 2022	2018/ 2021		2019/ 2022	2017/ 2020	2017/ 2020	2018/ 2021	2018/ 2021	2018/ 2021	2019/ 2022
IE-343: Design & Manufacturing Processes II	2019/ 2022		2018/ 2021		2019/ 2022						2019/ 2022
IE-380: Project Management			2018/ 2021		2019/ 2022	2017/ 2020	2017/ 2020	2018/ 2021	2018/ 2021	2018/ 2021	2019/ 2022
ME-354: Thermodynamics	2019/ 2022				2019/ 2022						
IE-413: Quality Control	2019/ 2022		2018/ 2021		2019/ 2022						2019/ 2022
IE-433: Metrology & Instrumentation											
IE-453: Engineering Optimization											
IE-424: Capstone	2019/ 2022	2019/ 2022	2018/ 2021	2017/ 2020	2019/ 2022		2017/ 2020	2018/ 2021		2018/ 2021	2019/ 2022
IE-463: Facility Planning & Design	2019/ 2022		2018/ 2021		2019/ 2022		2017/ 2020	2018/ 2021		2018/ 2021	
IE-473: Inventory Control & Production Plan	2019/ 2022		2018/ 2021		2019/ 2022		2017/ 2020	2018/ 2021		2018/ 2021	2019/ 2022
IE-494: System Simulation	2019/ 2022	2019/ 2022	2018/ 2021		2019/ 2022		2017/ 2020	2018/ 2021	2018/ 2021		2019/ 2022

Industrial Maintenance and Operations Program Goals

Graduates from Industrial Maintenance and Operations will have the following outcomes:

1. Students should have basic knowledge of oxyfuel cutting/arc welding.
2. Students should be able to determine basic power tools and how to use them safely.
3. Students should be able to install and test industrial equipment.
4. Students should be able to troubleshoot and repair industrial systems.
5. Students should be to be able to demonstrate knowledge of pumps and drivers with hands-on learning.
6. Students should have fundamental knowledge of valves.
7. Graduates should be able to read and interpret schematics of mechanical and electrical components.
8. Students should demonstrate competencies in material handling and rigging.
9. Students should be able to understand industrial safety standards in order to protect the employees and the equipment.

Information Technology (I.T.) Program Goals

Upon completion of an I.T. degree, the graduates will have the following attributes and values:

1. Participate in planning, implementing and evaluating language-specific team programming solutions to specific business problems.
2. Complete individual practical experiences in a variety of programming languages and situations.
3. Employ deductive logic skills to analyze malfunctioning computer programs and use proper debugging and testing skills, modifying them so that they function correctly.
4. Create computer program documentation through the use of flow charts, inter-procedural optimization (IPO) charts, pseudocode, internal program comments, and user instructions.
5. Demonstrate familiarity with computer hardware and networking.
6. Demonstrate knowledge of, and the ability to write programs for, the World Wide Web.
7. Interpret the impact of change in work, society and world environments on computer programming.
8. Employ deductive logic skills to analyze malfunctioning computer games, and use proper debugging and testing skills, and then modify them so that they function correctly.
9. Configure wireless local area network (WLAN) products, including access points, bridges, client devices and accessories.
10. Demonstrate proficiency in hardware and software installation and configuration.
11. Design and implement local area network (LAN) and wide area network (WAN) infrastructures.
12. Manage server resources, monitor server performance, and safeguard data.
13. Analyze, design, and build business database systems.

Bachelor of Applied Science – Information Technology

The mission of the Bachelor of Applied Science – Information Technology Program is to prepare students for the highly technical and innovative field of computational science. More specifically, certain skill sets will be acquired in the program that will allow graduates to have an impact at all levels. Graduates of the program will be able to contribute to every aspect of the field and the infrastructure necessary to allow massively parallel computation to occur.

Program Assessment Plan

Program Goals – Graduates will be able to:	**2016**	**2017**	**2018**	**2019**
Implement and maintain massively parallel clusters	x			
Write and support massively parallel software		x		

Implement and maintain the infrastructure necessary to support massively parallel computation that spans from the workstation to virtualized data center designs			x	
Work competently and collaboratively using effective research techniques to synthesize contextually relevant solutions to any given problem				x
Develop self-directed projects that synthesize creative and technical methodologies to solve problems		x		
Conceptualize, implement, and evaluate solutions for a wide range of computationally intensive applications			x	
Communicate effectively with peers and superiors about relevant application of technologies to solve problems				x

Law Advocate Program Goals

Upon completion of Law Advocate program at Navajo Tech, graduates should have the following expected outcomes**:**

1. Graduates should be able to understand and interpret the Navajo Law.
2. Graduates should be able to understand and interpret State and Federal laws.
3. Graduates should be able to apply ethical rules related to the legal profession.
4. Graduates should be able to demonstrate the use of specialized legal terminology.
5. Graduates should be able to prepare legal documents in their specialized format.
6. Graduates should be able to illustrate law office management procedures.
7. Graduates should be able to pass the Navajo Nation Bar Examination.

Mathematics Program Goals

Mission Statement of the Mathematics Department

The Mathematics Department of Navajo Technical University has a mission to provide all students a strong foundation of mathematics that will help them succeed in their preparatory education, general education core, courses for engineering and science, courses for the graduate students and mathematics majors at the certificate, associate, baccalaureate level. We will also help develop students not only to become logical learners but also great communicators of mathematical knowledge.

Goals:

List of courses where the Program Goals (Expected Program Outcomes) will be measured

Name of Programs: Certificate in Mathematics, Associate Degree in Mathematics, and Bachelor of Science in Secondary Education-Major in Mathematics

Program Goals (Expected Program Outcomes)	Courses	Performance Level: Competence or Mastery	Name of Faculty
1. Be able to teach students in different majors the basic concepts and skills of mathematics, and to provide mathematical background for all students that is appropriate for their needs.	MTH-121	Competence	Dr. Paez-Paez
2. Be able to teach advanced mathematical concepts and analytical skills to stimulate curiosity and develop maturity by becoming clear, precise and well-organized in solving mathematical problems.			
3. Be able to make appropriate use of technology in the solution of a mathematical problem.	MTH-121 & MTH-123	Competence	Nacorda & Han
4. Be able to communicate sound mathematical reasoning and solutions of mathematical problems through oral presentations.	MTH-121 & MTH-123		

New Media Mission Statement

The mission of the New Media B.A.S. IT Program is to prepare students for the highly innovative, creative and technical world of digital media. Students will become effective in digital sound design, digital video production and post-production, 2D and 3D animation, visual graphic arts, and web design. Students will also be introduced to the history, principles and theories of film, visual arts, media criticism, ethics, and sensory perception. Students will receive a hands-on approach to learning and will be challenged to apply their artistic creativity in the production of digital media.
criticism, ethics, and sensory perception. Students will receive a hands-on approach to learning and will be challenged to apply their artistic creativity in the production of digital media.

List of courses where the Program Goals (Expected Program Outcomes) will be measured

New Media Program Goals (B.A.S.)

Upon successful completion of New Media program, graduates should have the following attributes:

Program Goals for New Media	2015	2016	2017	2018
1. Work competently in a variety of digital media environments.	X			
2. Conceptualize, implement and evaluate substantial, meaningful and purposeful projects using digital media techniques.	X			
3. Evaluate ethical and legal considerations in working with digital media.		X		
4. Use written, oral and visual communication skills to communicate information and ideas about new media.		X		
5. Critique studio practice in relation to contemporary innovations in technology and art.			X	
6. Examine and participate in virtual environments.			X	
7. Describe the techno-cultural discourse surrounding new-media technologies and practice.				X
8. Work in collaborative environments.				X
9. Develop self-directed projects that synthesize creative, technical, and critical approaches.				X

Pre-Nursing Program Goals

Pre-Nursing Certificate Program

The mission of the Pre-Nursing Program is to prepare students to perform nursing assistant skills required for the care and comfort of individuals in various health care settings. Upon completion, student will successfully test for state certification and prepare for employment opportunities.

Program Assessment Plan

Program Goals – Graduates will be able to:	**2016**	**2017**	**2018**	**2019**
Demonstrate safe, competent basic nursing care to patients/residents within the scope of practice of the nursing assistant.	x		x	
Identify the role of the nursing assistant in the health care delivery team.	x		x	
Communicate effectively with patients/residents and other members of the health care team.	x	x		x
Demonstrate professional behavior.	x	x		x

Program Goals	**Courses**	**Performance Evaluation**	**Name of Faculty**
Demonstrate safe, competent	NRS 101/102	NRS 101: Pass with a	R. Pacheco, RN &

basic nursing care to patients/residents within the scope of practice of the nursing assistant.		76% or better NRS 102: Pass or Fail	Harriet John, RN
Identify the role of the nursing assistant in the health care delivery team.	NRS 101/102	NRS 101: Pass with a 76% or better NRS 102: Pass or Fail	R. Pacheco, RN & Harriet John, RN
Communicate effectively with patients/residents and other members of the health care team.	NRS 101/102	NRS 101: Pass with a 76% or better NRS 102: Pass or Fail	R. Pacheco, RN & Harriet John, RN
Demonstrate professional behavior.	NRS 101/102	NRS 101: Pass with a 76% or better NRS 102: Pass or Fail	R. Pacheco, RN & Harriet John, RN

Public Administration Program Goals

Upon completion of Public Administration program, the graduates will have the following skills, attributes, and values:

1. **S**tudents should be able to describe the four functions of a manager: planning, organizing, directing and controlling.
2. **S**tudents should be able to know how to prepare financial statements for a company.
3. **S**tudents should be able to know how to use accounting information to make informed decisions about a firm's operations.
4. **S**tudents should be able to describe the four areas of marketing: product, pricing, promotion and placement.
5. Graduates should be able to demonstrate an understanding of the role planning, organizing, leading and controlling plays in organizational success.
6. **S**tudents should be able to conduct strengths, weaknesses, opportunities, and threats (SWOT) analysis for personal and/or organizational matters.
7. **S**tudents should be able to demonstrate the ability to work with and/or lead a diverse team toward goal accomplishment.
8. **S**tudents should be able to demonstrate an understanding of the importance of attracting, developing and retaining a high-quality workforce.
9. **S**tudents should be able to design appropriate and effective marketing strategies.

Veterinary Technology Program Mission Statement

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 (AVMA) Veterinary Technology Student Essential and Recommended Skills List, which will prepare students as entry-level veterinary technicians, to successfully pass the Veterinary Technician National Exam (VTNE), and to perform as effective veterinary health care team members.

Goals:

1. 75% of students will successfully pass (with a 70% score) the Veterinary Technician Exam (VTNE) within the first two attempts at the completion of the veterinary technology program.

2. Students will accomplish 100% of the *Veterinary Technology Student Essential Skills List* pertaining to the courses by the end of each semester.
3. Students will demonstrate an understanding of office and hospital procedures, client relations, and communication. Students will follow and uphold applicable laws and the profession's ethical codes.
4. Students will safely and effectively administer prescribed drugs to patients. Students will accurately dispense and explain prescribed drugs to clients.
5. Students will demonstrate and perform patient assessment techniques and demonstrate husbandry, nutrition, therapeutic and dentistry techniques.
6. Students will safely and effectively manage, maintain and monitor patients under anesthesia.
7. Students will understand and integrate all aspects of patient management and maintain asepsis for common surgical procedures.
8. Students will demonstrate an understanding of laboratory procedures.
9. Students will demonstrate an understanding of diagnostic radiography and non-radiographic modalities.
10. Students will demonstrate an understanding of handling common laboratory animals used in research.
11. Students will demonstrate an understanding of providing safe and effective care for avian, exotic, small mammals & fish procedures.

Three-Year Program-Level Assessment Plan for an Associate Degree Program
Name of Program: Veterinary Technology

List of courses where the Program Goals (Expected Program Outcomes) will be measured.

Program Goals (Expected Program Outcomes)	Courses	Performance Level: Competence or Mastery	Name of Faculty
1. 75% of students will successfully pass (with a 70% score) the Veterinary Technician Exam (VTNE) within the first two attempts at the completion of the veterinary technology program.	VET250, VET260	Competent	Benally
2. Students will accomplish 100% of the *Veterinary Technology Student Essential Skills List* pertaining to the courses by the end of each semester.	All VET Courses	Competent	Benally, Daye, Frank, Wilson
3. Students will demonstrate an understanding of office and hospital procedures, client relations, and communication. Students will follow and uphold applicable laws and the profession's ethical codes.	VET090, VET132, VET136	Competent	Frank, Wilson
4. Students will safely and effectively administer prescribed drugs to patients. Students will accurately dispense and explain prescribed drugs to clients.	VET142, VET230, VET232	Competent	Benally, Frank, Wilson
5. Students will demonstrate and perform patient assessment techniques and demonstrate husbandry, nutrition, therapeutic and dentistry techniques.	VET132, VET136, VET140, VET146, VET148, VET150, VET230, VET246, VET248	Competent	Benally, Daye, Frank, Wilson
6. Students will safely and effectively manage, maintain and monitor patients under anesthesia.	VET232	Competent	Wilson
7. Students will understand and integrate all aspects of patient management and maintain asepsis for common surgical procedures.	VET140, VET230	Competent	Frank
8. Students will demonstrate an understanding of laboratory procedures.	VET144, VET234, VET244	Competent	Wilson
9. Students will demonstrate an understanding of diagnostic radiography and non-radiographic modalities.	VET236, VET240	Competent	Benally
10. Students will demonstrate an understanding of handling common laboratory animals used in research.	VET234, VET242, VET248	Competent	Frank, Wilson
11. Students will demonstrate an understanding of providing safe and effective care for avian, exotic, small mammals & fish procedures.	VET242	Competent	Frank

Weaving Program Goals

Mission Statement for Weaving Certificate
Foster Diné cultural awareness and creativity by weaving, pottery making, Navajo ethnobotany and traditional cooking.

One-Year Program-Level Assessment Plan for a Certificate program

Name of Program: Weaving Certificate

Program Goals (Expected Program Outcomes)	2015	2016
1. Identify and discuss concepts related to the cultural, social, and ethnological aspects of textiles and three-dimensional art.	x	
2. Identify and discuss concepts related to the historical background of textiles, three-dimensional art,	x	
3. Write effectively using field-specific terminology and conventions in a variety of forms for appropriate professional audiences.	x	
4. Construct a weaver's loom and identify all it parts/peripherals and how it is related to Dine culture.	x	x
5. Must be able to weave a rug, build a pottery from raw materials and gather plants in field; prepare traditional foods.	x	x
6. Be able to choose an appropriate design for the configuration of the Navajo rug and pottery.	x	x

Welding Technology Program Goals

Welding Technology

Mission Statement

The Welding Technology Program will enable and provide emphasis on the study to harness the welding world. To achieve this task student will learn skills to employ the transformation of the modern welding, students will study the latest welding technology topics and related applications and installations. While students study the transformation of metal characteristic and have the opportunity to explore components of science, mathematics, technology in welding. The design welding technology will enable students to supplement their existing welding needs at home, community and the Navajo Nation.

Program-Level Assessment Plan for an Associate Degree Program
Name of Program: Welding Certificate

Program Goals (Expected Program Outcomes)		2016	2017
1. Ensure the relevance and importance of welding and how it impacts the environment		x	x
2. Prepare the student to meet the challenges of becoming involved in promoting welding.		x	x
3. Understand the importance of safe and reliable welding installations; understand how to interpret code requirements; ensure safeguards that prevent hazards that may arise from the use of welding		x	x
4. Welding technical Information that is of practical importance to a welder such as interpreting welding symbols, inspecting and testing welds and welding certification		x	x
5. Offer opportunities in the areas of job placement and internships		x	x
6. Welders must pass a welding performance qualification test before making welds in accordance with the code or specification. A welding performance qualification the welder to weld test plate following approve WPS.		x	x

List of courses where the Program Goals (Expected Program Outcomes) will be measured.
Program: Welding Technology

Program Goals (Expected Program Outcomes)	Courses	Performance Level: Competence or Mastery	Name of Faculty
1. Learn and teach Safety in the welding shop	Welding fundamentals	100 percent	
2. Prepare the student to meet the challenges of Welding and cutting	Welding Fundamentals	100 percent	
3. Understand the importance the physics	Welding Fundamentals	100 percent	
4. Correctly calculate the weld joints and positions, types of welds, penetration, joints Geometry and g1, g2, g3, g6 welding position.	Welding Fundamentals	80 percent	
5. Offer opportunities in the areas of job placement and internships	Welding	50 percent	
6. Implement practical of GTAW Equipment assembly and adjustment. Understanding GTAW horizontal, Vertical, and overhead welding position. Installation shall have the capabilities to produce weld. Safe, reliable, and visible systems will require students to incorporate science, mathematics, technology, engineering that integrates into the design, construction or fabrication of installations.	Welding Fundaments	80 percent	