

NITSÁHÁKEES

NÁHAT'Á

'IINÁ

SIIH HASIN

NAVAJO TECHNICAL UNIVERSITY

E S T A B L I S H E D 1 9 7 9

Course Title: Technical Mathematics Lab

Course #: Math 113L

Credit Hours: 1

Semester: Spring 2022

Faculty: Bruce Lewis

E-mail: blewis@navajotech.edu

Office Hours: Monday and Wednesday 1pm-2pm, Tuesday and Thursday 9am-10am

Preferred Communication: Email

Modality: In-person

Class Location and Meeting Times: Building E, Computer Lab, Tuesday and Thursday 2:30-3:30pm

Required Materials: textbook, notebook with paper, graph paper, ruler

Textbooks: **Elementary Technical Mathematics (12th edition / Cengage) by Dale Ewen**

Tools: DESMOS graphing calculator phone app

Mission, Vision, and Philosophy

Mission: Navajo Technical University honors Diné culture and language, while educating for the future.

Vision: Navajo Technical University provides an excellent educational experience in a supportive, culturally diverse environment, enabling all community members to grow intellectually, culturally, and economically.

Philosophy: Through the teachings of Nitsáhákees (thinking), Nahátá (planning), Íina (implementing), and Siihasin (reflection), students acquire quality education in diverse fields, while preserving cultural values and gaining economic opportunities.

Course Description

Technical Mathematics with lab is a 1 credit hour lab. The math lab will focus on additional practice exercises on concepts and applications involving arithmetic, fraction, decimal, and percentages. The math lab will offer tutoring and online assignments. The class is aligned to Math 113 which will cover lessons pertaining to Basic Concepts, Signed numbers, Metric system, Equations & Formulas, Ratio and Proportion, Linear equations, Geometry, and Right Triangle Trigonometry. Also, the course will be integrated to other fields of study to make it real and relevant.

Course Objectives

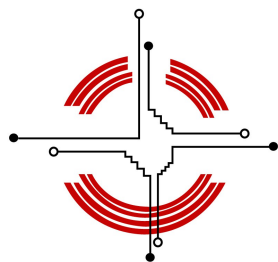
At the end of the semester the students will:

1. apply basic computation rules;
2. define / describe technical math concepts;
3. solve problems involving fundamental operations

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Assessments:

Pre/post Survey. At the beginning and at the end of the semester, students will complete an attitudinal survey to ascertain growth in competence and confidence in mathematics. The survey will help identify opportunities to improve the course in the future.

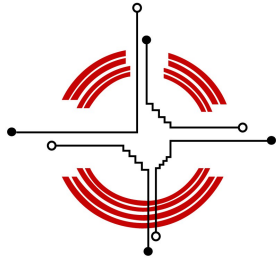
Classroom Assessments. Classroom Assessments are ungraded activities conducted in class. They provide feedback on whether or not students understand course material so that adjustments can be made before the end of the term. They are ungraded.

1. **Assignments.** Every week students will have assignments.
2. **Quizzes.**
3. **Tests**

COURSE OUTCOMES	COURSE MEASUREMENTS
Students will apply fundamental operations to integers, fractions, decimals, and percentages.	Formative assessment, Summative assessment, Applications.
Students will solve real-world application problems that measures basic mathematics skills	

Course Activities

Week	Assignments
1	Arithmetic Properties Unit (Quiz 1, Quiz 2, and Unit Test)
2	Factors and Multiples Unit (Quiz 1, Quiz 2, Quiz 3, and Unit Test)
3	Reading and Interpreting Data Unit (Quiz 1, Quiz 2, and Unit Test)
4	Measurement Unit (Quiz 1, Quiz 2, Quiz 3, and Unit Test)
5	Fractions Unit (Quiz 1, Quiz 2, Quiz 3, Quiz 4, and Quiz 5)
6	Fractions Unit (Quiz 6, Quiz 7, Quiz 8, Quiz 9, and Unit Test)
7	Decimals Unit (Quiz 1, Quiz 2, Quiz 3, Quiz 4, Quiz 5, and Unit Test)
8	Negative Numbers and the Coordinate Plane (Quiz 1, Quiz 2, Quiz 3)
9	Negative Numbers and the Coordinate Plane (Quiz 4, Quiz 5, and Unit Test)
10	Ratios, Rates, and Proportions (Quiz 1, Quiz 2, Quiz 3, and Quiz 4)
11	Ratios, Rates, and Proportions (Quiz 5, Quiz 6, and Unit Test)
12	Equations, Expressions, and Inequalities (Quiz 1, Quiz 2, Quiz 3, and Quiz 4)
13	Equations, Expressions, and Inequalities (Quiz 5, Quiz 6, Quiz 7, and Unit Test)
14	Exponents, Radicals, and Scientific Notation (Quiz 1, Quiz 2, and Quiz 3)
15	Exponents, Radicals, and Scientific Notation (Quiz 4, Quiz 5, and Unit Test)
16	Study for your Math 113 Final



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Grading Plan

Attendance	10%	90-100%	A
Quizzes and Unit Tests	90%	80-89%	B
		70-79%	C
		60-69%	D
		Below 60%	F

Grading Policy

Students must do their own work. Cheating and plagiarism are strictly forbidden. Cheating includes (but is not limited to) plagiarism, submission of work that is not one's own, submission or use of falsified data, unauthorized access to exams or assignments, use of unauthorized material during an exam, or supplying or communicating unauthorized information for assignments or exams.

Participation

Students are expected to attend and participate in all class activities. Points will be given to students who actively participate in class activities including guest speakers, field trips, laboratories, and all other classroom events.

Cell phone and headphone use

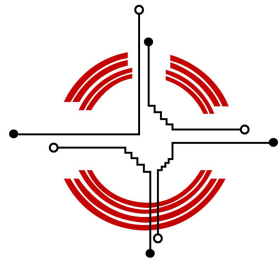
Please turn cell phones off **before** coming to class. Cell phone courtesy is essential to quality classroom learning. Headphones must be removed before coming to class.

Attendance Policy

Students are expected to attend all class sessions. If more than ten minutes late, students will be counted as absent. A percentage of the student's grade will be based on class attendance and participation. Absence from class, regardless of the reason, does not relieve the student of responsibility to complete all course work by 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 necessarily affect the student's grades. Instructors will report excessive and/or unexplained absences to the Counseling Department for investigation and potential intervention. **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.**

Study Time Outside of Class for Face-to-Face Courses

For every credit hour in class, a student is expected to spend two hours outside of class studying course materials.



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Academic Integrity

Integrity (honesty) is expected of every student in all academic work. The guiding principle of academic integrity is that a student's submitted work must be the student's own. Students who engage in academic dishonesty diminish their education and bring discredit to the University community. Avoid situations likely to compromise academic integrity such as: cheating, facilitating academic dishonesty, and plagiarism; modifying academic work to obtain additional credit in the same class unless approved in advance by the instructor, failure to observe rules of academic integrity established by the instructor. **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.**

Diné Philosophy of Education

The Diné Philosophy of Education (DPE) is incorporated into every class for students to become aware of and to understand the significance of the four Diné philosophical elements, including its affiliation with the four directions, four sacred mountains, the four set of thought processes and so forth: Nitsáhákees, Nahát'á, Íina and Siih Hasin which are essential and relevant to self-identity, respect and wisdom to achieve career goals successfully.

Students with Disabilities

Navajo Technical University is committed to serving all students in a non-discriminatory and accommodating manner. Any student who feels that she or he may need special accommodations should contact the Accommodations Office (<http://www.navajotech.edu/student-services#accommodations-services>) in accordance with the university's Disability Accommodations Policy (see http://www.navajotech.edu/images/about/policiesDocs/Disability_Exhibit-A_6-26-2018.pdf).

Email Address

Students are required to use NTU's email address for all communications with faculty and staff.

Important Dates:

Martin Luther King Holiday is January 17th
Last day to add/drop without a W is January 21
Presidents' Day is February 21
Spring graduation petition is due on February 25
Midterm exams are March 7 to March 11
Spring Break is March 14 to March 18
Last day to withdraw with a W is March 31
Final exams is May 9 to May 12
Spring graduation is on May 13