



**Course Title: Electrical Level One
Course #: ELC 101-1**

**Credit Hours: 4
Semester: Fall 2022
Cap: 10**

Faculty: Virgil T. House

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Office: Room 123, Trades Building

Office Phone: (505) 387-1047

Office Hours (face-to-face or online): 8:00am-5:00pm M-F

Preferred Communication (email and/or text; will respond within 24 hours): vhouse@navajotech.edu

Or cell phone number (505) 459-0518

Modality (face-to-face, hybrid, or online):

Class Location and Meeting Times (if face-to-face): Trades Building, Rm 123 8:00am-9:50pm M/W

We may have classes on Fridays, depending on the on-line testing (TBA)

Meeting Hours and Online Hours (if hybrid):

Required Materials:

Textbooks: Electrical Level One 10th Edition Pearson ISBN 9870136908531

National Electrical Codebook 2020 ISBN 978-1-4559-2297-0

Laptop and Internet Access: Every student is required to own a laptop and have internet access.

Tools: Scientific Calculator (TI-30Xa)

Color Pencils

Lab Fee (if applicable): None

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: This course includes 12 Modules: Orientation of the Electrical Trade, Electrical Safety, Introduction to Electrical Circuits, Electrical Theory, Introduction to the National Electrical Code, Device Boxes, Hand Bending, Raceway and Fittings, Conductor and Cables, Basic Electrical Construction Drawings, Residential Electrical Services, and Electrical Test Equipment. All practical applications will follow New Mexico and the National Electrical Code.

Course Outcomes	Course Assessments
Electrical safety for personnel, equipment, and work area	Quiz, Exams, and Hands-On Procedures
Components and hardware of residential and commercial electrical wiring	Quiz, Exams, and Hands-On Procedures
Wiring methods: sizing conductors based on load calculations	Quiz, Exams, and Hands-On Procedures
Terminology of the National Electrical Code	Quiz, Exams, and Hands-On Procedures
Electrical Drawings and Schematics	Quiz, Exams, and Hands-On Procedures
Service and Distribution, Power Riser, Transformers, Overcurrent Protection and Grounding	Quiz, Exams, and Hands-On Procedures
Branch Circuits and Feeders	Quiz, Exams, and Hands-On Procedures

Connections to Program Assessment (Course-Embedded Measures)

Course Activities

Week	Date	Class Topics/Reading Due	Assignments Due	Assessments
1	1/17-1/21	26101-20 Occupational Overview: The Electrical Industry Due 1/26	Module 1 Review Questions, Trade Terms and Supplemental Exercises	Electronic Testing 1/26
	Jan. 21	Last day to add/drop		
2	1/24-1/28	26102-20 Safety for Electricians Performance profile sheet (Pre- Task) Due 2/2	Module 2 Review Questions, trade Terms, and Supplemental Exercises	Electronic Testing 2/2
3	1/31-2/4	26103-20 Introduction to Electrical Circuits Due 2/9	Module 3 Review Questions, Trade Terms, and Supplemental Exercises	Electronic Testing 2/9
4	2/7-2/11	26104-20 Electrical Theory Due 2/16	Module 4 Review Questions, Trade Terms, and Supplemental Exercises	Electronic Testing 2/16
5	2/14-2/18	26105-20 Introduction to the National Electrical Code Performance profile sheet (Pre- Task)	Module 5 Review Questions, Trade Terms, and	Electronic Testing 2/23

		Due 2/23	Supplemental Exercises	
6	2/21-2/25	26106-20 Device Boxes Performance profile sheet (Pre-Task) Due 3/2	Module 6 Review Questions, Trade Terms, and Supplemental Exercises	Electronic Testing 3/2
	Feb.25	Graduation Petition Due		
7	2/28-3/4	26107-20 Hand Bending Performance profile sheet (Pre-Task) Due 3/9	Module 7 Review Questions, Trade Terms, and Supplemental Exercises	Electronic Testing 3/9
	Mar. 31	Last day to withdraw with "W"		
8	3/7-3/11	Midterm Grades due 3/18	Midterm Exam 3/16	Modules 1,2,3,4,5, & 6
9	3/14-3/18	Spring Break		
10	3/21-3/25	26108-20 Raceway and Fittings Performance profile sheet (Pre-Task) Due 3/28	Module 8 Review Questions, Trade Terms, and Supplemental Exercises Module	Electronic Testing 3/28
11	3/28-4/1	26109-20 Conductors and Cables Performance profile sheet (Pre-Task) Due 4/4	Module 9 Review Questions, Trade Terms, and Supplemental Exercises Module	Electronic Testing 4/4
12	4/4-4/8	26110-20 Basic Electrical Construction Documents Performance profile sheet (Pre-Task) Due 4/11	Module 10 Review Questions, Trade Terms, and Supplemental Exercises Module	Electronic Testing 4/11
13	4/11-4/15	26111-20 Residential Electrical Services Performance profile sheet (Pre-Task) Due 4/18		Electronic Testing TBA

14	4/18-4/22	Continuation Residential Electrical Service Due 4/27		Electronic Testing 4/27
15	4/25-4/29	26112-20 Electrical Test Equipment Performance profile sheet (Pre-task)	Module 12 Review Questions, Trade Terms, and Supplemental Exercises Module	Electronic Testing 5/4
16	5/2-5/6	Review Modules	Complete Module Assignments	
17	5/9-5/13	Final Exam 5/11		Modules 7,8,9,10,11, & 12
		Grades due to the Registrar 5/12		
		Graduation 5/13		

Grading Plan

Homework: 25%

Attendance: 5%

Class Participation: 5%

Quizzes and Test: 25%

Mid-term: 40%

Portfolio:

Home work: 25%

Attendance: 5%

Class Participation: 5%

Quizzes and Test: 25%

Final Exam: 40%

A = 100-90%

B = 89-80%

C = 79-70%

D = 69-60%

F = 59% or less

This class is required to pass with a Final Grade of “C”. If one does not meet the passing grade, the student will be required to repeat the class!

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. **No cell phone used as calculators while taking your test.**

Attendance Policy

Students are expected to attend all class sessions. 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. All absences excused or unexcused will be considered not attending class! If you were to have a total of 4 combined, you will be dropped from the class.**

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.

Study Time for Hybrid or Blended Courses

For a hybrid or blended course of one credit hour, a student is expected to spend three hours per week studying course materials.

Study Time for Online Courses

For an online course of one credit hour, a student is expected to spend four hours per week studying course materials.

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.

At NTU's Zuni Campus, the A:shiwí Philosophy of Education offers essential elements for helping students develop Indigenous and Western understandings. Yam de bena: dap haydoshna: akkya hon detsemak a:wannikwa da: hon de:tsemak a:ts'umme. *Our language and ceremonies allow our people to maintain strength and knowledge.* A:shiwí core values of hon i:yyułashik'yanna:wa (respect), hon delank'oha:willa:wa (kindness and empathy), hon i:yyayumola:wa (honesty and trustworthiness), and hon kohol lewuna:wediyahnan, wan hon kela i:tsemanna (think critically) are central to attaining strength and knowledge. They help learners develop positive self-identity, respect, kindness, and critical thinking skills to achieve life 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#accomodations-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.

Final Exam Date: May 11, 2022