



**Navajo Technical University**  
PO Box 849, Crownpoint, NM 87313

<http://www.navajotech.edu>

Tel: (505) 387-7401

**Course Title: Modern Residential Wiring**  
**Course #: ELC 100-1**

**Credit Hours: 3**  
**Semester: Spring 2022**  
**Cap: 10**

**Faculty:** Virgil T. House

**E-mail:** [vhouse@navajotech.edu](mailto:vhouse@navajotech.edu)

**Office: Room 123, Trades Building**

**Office Phone:** (505) 387-7405

**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](mailto: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 12:30-2:50pm M/W

**Meeting Hours and Online Hours** (if hybrid):

**Required Materials:**

**Textbooks: Modern Residential Wiring 12<sup>th</sup> Edition by Harvey N. Holzman**

**Based on the 2020 NEC ISBN 978-1-63563-880-6**

**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 electrical principles and practices, as well as a thorough understanding of the National Electrical Code Requirements. It covers not only the “how” but the “why” of safe electrical wiring practices. Although the content is concerned primarily with residential

installations, many of the same concepts and principles may be applied to commercial and industrial constructions. The chapters are in logical sequence. The order of instructions follows the normal order in which the installation will be made. Modern residential wiring makes the study of electrical simplified. Even the most complicated procedures are simply explained and easy to understand. The illustrations should be carefully examined as they will often clarify and explain the more difficult principles of electricity and the requirements of the National Electrical Code. It provides both the fundamentals of electrical wiring and the latest practices in the trade. All practical applications will follow New Mexico and the National Electrical Code.

<b>Course Outcomes</b>	<b>Course Assessments</b>
Identify Symbols and Notations	Quiz, Exams, and Hands-On Procedures
Branch Circuitry	Quiz, Exams, and Hands-On Procedures
Load Calculations	Quiz, Exams, and Hands-On Procedures
Power Distribution Systems	Quiz, Exams, and Hands-On Procedures

**Connections to Program Assessment (Course-Embedded Measures)**

**Course Activities**

<b>Week</b>	<b>Date</b>	<b>Class Topics/Reading Due</b>	<b>Assignments Due</b>	<b>Assessments</b>
1	1/17-1/21	Chapter 1 Electrical Careers  Due 1/26	Chapter 1 Know and Understand, Apply and Analyze, and Workbook	Test 1/26
	<b>Jan.21</b>	<b>Last day to add/drop</b>		
2	1/24-1/28	Chapter 5 Electrical Fundamentals  Due 2/2	Chapter 5 Know and Understand, Apply and Analyze, and Workbook	Test 2/2
3	1/31-2/4	Chapter 6 Print Reading, Specifications, and Codes  Due 2/9	Chapter 6 Know and Understand, Apply and Analyze, Workbook, & Know the Code	Test 2/9

4	2/7-2/11	Chapter 7 Branch Circuit, Feeder, and Service Design Due 2/16	Chapter 7 Know and Understand, Apply and Analyze, Workbook, & Know the Code	Test 2/16
5	2/14-2/18	Chapter 8 Conductors Due 2/28	Chapter 8 Know and Understand, Apply and Analyze, Workbook, & Know the Code	Test 2/28
6	2/21-2/25 21 <sup>st</sup> President's Day	Chapter 9 Cable Systems Due 3/2	Chapter 9 Know and Understand, Apply and Analyze, Workbook, & Know the Code	Test 3/7
	<b>Feb.25</b>	<b>Graduation Petition Due</b>		
7	2/28-3/4	Chapter 10 Raceway Systems Due 3/21	Chapter 10 Know and Understand, Apply and Analyze, Workbook, & Know the Code	Test 3/21
	<b>Mar.31</b>	<b>Last day to withdraw with "W"</b>		
8	3-7-3/11	<b>Midterm Grades due 3/11</b>	<b>Midterm Exam 3/9</b>	Chapters 1,5,6,7,8, and 9
9	3/14-3/18	<b>Spring Break</b>		
10	3/21-3/25	Chapter 10 Raceway Systems Due 3/28	Chapter 10 Know and Understand, Apply and Analyze, Workbook, & Know the Code	Test 3/2
11	3/28-4/1	Chapter 11 Boxes, Fittings, and Covers Due 4/5	Chapter 11 Know and Understand, Apply and Analyze, Workbook, & Know the Code	Test 4/5

12	4/4-4/8	Chapter 15 Overcurrent Protections Due 4/12	Chapter 15 Know and Understand, Apply and Analyze, Workbook, & Know the Code	Test 4/12
13	<b>4/11-4/15</b>	<b>Chapter 16 Grounding</b> <b>Due 4/19</b>	<b>Chapter 16 Know and Understand, Apply and Analyze, Workbook, &amp; Know the Code</b>	Test 4/19
14	4/18-4/22	Chapter 17 Service Equipment Due 4/26	Chapter 17 Know and Understand, Apply and Analyze, Workbook, & Know the Code	Test 4/26
15	<b>4/25-4/29</b>	<b>Chapter 18 Mobile Home Wiring</b> <b>Due 5/2</b>	<b>Chapter 18 Know and Understand, Apply and Analyze, Workbook, &amp; Know the Code</b>	Test 5/2
16	<b>5/2-5/6</b>	<b>Chapter 22 Motors</b> <b>Due 5/9</b>	<b>Chapter 22 Know and Understand, Apply and Analyze, Workbook, &amp; Know the Code</b>	Test 5/9
<b>17</b>	<b>5/9-5/13</b>	<b>Final Exam May 11</b>	<b>Finals</b>	<b>Chapters 10,11,15,16,17,18, and 22</b>
		<b>Grades due to the Registrar 5/12</b>		
		<b>Graduation 5/12/2022</b>		

### 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.

### **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:yyayumofa:wa (honesty and trustworthiness), and hon kohoł 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](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 12, 2022**