



North Central State College

MASTER SYLLABUS

2026-2027

- A. Academic Division: Engineering Technology, Business & Criminal Justice Division
- B. Discipline: Industrial Technology - Industrial Maintenance
- C. Course Number and Title: EMMT1010 Industrial Electricity
- D. Assistant Dean: Brooke Miller, M.B.A.
- E. Credit Hours: 3
Lecture: 2 hours
Laboratory: 2 hours
- F. Prerequisites: None
- G. Last Course/Curriculum Revision Date: Spring 2026 Origin date: 02/08/2012
- H. Textbook(s) Title:

Ugly's Electrical References, 2026 Edition

- Author: Miller, Charles R.; Sandefur, Daniel
- Edition: 8th
- Copyright: 2026-01-01
- Publisher: Jones & Bartlett Learning
- ISBN13: 9781284315752

Electricity, 12th Edition

- Authors: Howard H. Gerrish, William E. Dugger Jr., and Ken DeLucca
- Copywrite 2024
- Edition: 12th
- Publisher: GW
- ISBN: 9781637767030

- I. Workbook(s) and/or Lab Manual:
- J. Course Description: In this course the student will learn to apply the basic concepts of electricity and its use in industry. The student will study DC and AC sources and how circuit components react when under power. Topics will include Ohm's law, Kirchoff's Laws, circuit analysis, electrical measurements, current, voltage, resistance, power, power factor, inductors, capacitors and transformers.
- K. College-Wide Learning Outcomes

College-Wide Learning Outcome	Assessments - - How it is met & When it is met
Communication – Written	
Communication – Speech	
Intercultural Knowledge and Competence	
Critical Thinking	

College-Wide Learning Outcome	Assessments - - How it is met & When it is met
Information Literacy	
Quantitative Literacy	

L. Course Outcomes and Assessment Methods:

Upon successful completion of this course, the student shall:

Outcomes	Assessments – How it is met & When it is met
1. Identify various circuit components such as the source, conductors, insulation, and loads.	Lab exercises throughout the course, quizzes, midterm and final exam.
2. Safely measure current, voltage, resistance and wattage using digital and analog multi-meters.	Lab exercises throughout the course.
3. Calculate and predict currents, voltage drops, circuit resistance and impedance, power loss, and power factor.	Lab exercises throughout the quarter, midterm and final exam.
4. Demonstrate the ability to successfully build electrical circuits using an electrical schematic.	Lab exercises throughout the course.
5. Troubleshoot and solve circuit faults using test equipment and schematics.	Lab exercises throughout the course, quizzes, midterm and final exam.

M. Recommended Grading Scale:

NUMERIC	GRADE	POINTS	DEFINITION
93–100	A	4.00	Superior
90–92	A-	3.67	Superior
87–89	B+	3.33	Above Average
83–86	B	3.00	Above Average
80–82	B-	2.67	Above Average
77–79	C+	2.33	Average
73–76	C	2.00	Average
70–72	C-	1.67	Average
67–69	D+	1.33	Below Average
63–66	D	1.00	Below Average
60–62	D-	0.67	Below Average
00–59	F	0.00	Failure

N. College Procedures/Policies:

North Central State College believes that every student is a valued and equal member of the community.* Every student brings different experiences to the College, and all are important in enriching academic life and developing greater understanding and appreciation of one another. Therefore, NC State College creates an inclusive culture in which students feel comfortable sharing their experiences. Discrimination and prejudice have no place on the campus, and the College takes any complaint in this regard seriously. Students encountering aspects of the instruction that result in barriers to their sense of being included and respected should contact the instructor, assistant dean, or dean without fear of reprisal.

* *Inclusive of race, color, religion, gender, gender identity or expression, national origin (ancestry), military status (past, present or future), disability, age (40 years or older), status as a parent during pregnancy and immediately after the birth of a child, status as a parent of a young child, status as a foster parent, genetic information, or sexual orientation*

Important information regarding College Procedures and Policies can be found on the syllabus supplement located at

<https://ncstatecollege.edu/documents/President/PoliciesProcedures/PolicyManual/Final%20PDFs/14-081b.pdf>



North Central State College
SYLLABUS ADDENDUM

Academic Division: Engineering Technology, Business & Criminal Justice Division **Discipline:** Industrial Technology, Industrial Maintenance
Course Coordinator: Dave Wright
Course Number: EMMT 1010 **Course Title:** Industrial Electricity
Semester / Session: Fall 2026 **Start / End Date:** 08/18/2026 thru 12/11/2026

Instructor Information

Name: Dave Wright **Credentials:** Master Electrician, BSBA
Phone Number: 419-755-4555 **E-Mail Address:** dwright@ncstatecollege.edu
Office Location: Kehoe Center – IST Lab **Office Hours:** Tuesday & Thursday 7am to 7 pm

I. Topical Timeline / Course Calendar (Subject to Change):

Weeks	Topics	Assignment	Due Date
1	Basic Electrical Circuits	Complete Module 1 Assignments, Complete the Module 1 Quiz, Complete the Module 1 Lab	08/21/2026
2	Electrical Measurements	Complete Module 2 Assignments, Complete the Module 2 Quiz, Complete the Module 2 Lab	08/28/2026
3	Circuit Analysis	Complete Module 3 Assignments, Complete the Module 3 Quiz, Complete the Module 3 Lab	09/04/2026
4	Inductance and Capacitance	Complete Module 4 Assignments, Complete the Module 4 Quiz, Complete the Module 4 Lab	09/11/2026
5	Combination Circuits	Complete Module 5 Assignments, Complete the Module 5 Quiz, Complete the Module 5 Lab	09/18/2026
6	Transformers	Complete Module 6 Assignments, Complete the Module 6 Quiz, Complete the Module 6 Lab	09/25/2026
7	Midterm Exam	Take Midterm Exam	10/09/2026
8	Introduction to Electric Motor Control	Complete Module 7 Assignments, Complete the Module 7 Quiz, Complete the Module 7 Lab	10/16/2026
9	Manual Motor Control and Overload Protection	Complete Module 8 Assignments, Complete the Module 8 Quiz, Complete the Module 8 Lab	10/23/2026
10	Control Transformers	Complete Module 9 Assignments, Complete the Module 9 Quiz, Complete the Module 9 Lab	10/30/2026
11	Control Ladder Logic	Complete Module 10 Assignments, Complete the Module 10 Quiz, Complete the Module 10 Lab	11/06/26
12	Control Relays and Motor Starters	Complete Module 11 Assignments, Complete the Module 11 Quiz, Complete the Module 11 Lab	11/13/26
13	Introduction to Troubleshooting	Complete Module 12 Assignments, Complete the Module 12 Quiz, Complete the Module 12 Lab	11/20/26
14	Final Exam	Take Final Exam	12/11/26

Course Number: _____
Semester / Session: _____

Course Title: _____
Start / End Date: _____

II. Grading and Testing Guidelines:

Final Grade Calculation

Activity	Qty	Points	Percentage
Quiz	12	100	40
Lab	12	100	40
Midterm Exam	1	100	10
Final Exam	1	100	10

There are 3 tasks that must be accomplished for each Module:

1. Take the pre-quiz (if required), Review the material on the Assignments page for each Module.
2. Complete the Quiz for that Module
3. Complete the Lab assignment for that Module.

- II. Students are expected to work in a manner that is respectful of others. This includes avoiding loud or abusive language.
- III. Students must verify that all work has been completed at the end of the semester.