



North Central State College

<b>MASTER SYLLABUS</b>	<b>2025-2026</b>
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- 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: 8<sup>th</sup>
- 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: 12<sup>th</sup>
- 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	Below Average
67–69	D+	1.33	Below Average
63-66	D	1.00	Below Average
60-62	D-	0.67	Poor
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:** Summer 2026      **Start / End Date:** 05/26/2026 thru 7/17/2026

**Instructor Information**

**Name:** Dave Wright      **Credentials:** Master Electrician, BSBA  
**Phone Number:** 419-755-4529      **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):**

<b>Weeks</b>	<b>Topics</b>	<b>Assignment</b>	<b>Due Date</b>
1	Basic Electrical Circuits / Electrical Measurements	Complete Amatrol Quiz, LAP, Skill Accomplishment	05/29/2026
2	Circuit Analysis	Complete Amatrol Quiz, LAP, Skill Accomplishment	06/05/2026
3	Inductance and Capacitance	Complete Amatrol Quiz, LAP, Skill Accomplishment	06/12/2026
4	Combination Circuits	Complete Amatrol Quiz, LAP, Skill Accomplishment	06/19/2026
5	Transformers / Introduction to Electric Motor Control	Complete Amatrol Quiz, LAP, Skill Accomplishment	06/26/2026
6	Manual Motor Control and Overload Protection / Control Transformers	Complete Amatrol Quiz, LAP, Skill Accomplishment	07/03/2026
7	Control Ladder Logic / Control Relays and Motor Starters	Complete Amatrol Quiz, LAP, Skill Accomplishment	07/10/2026
8	Introduction to Troubleshooting / Final Exam	Complete Amatrol Quiz, LAP, Skill Accomplishment, Final Exam	07/17/2026

**II. Grading and Testing Guidelines:**

Final Grade Calculation

<b>Activity</b>	<b>Qty</b>	<b>Points</b>	<b>Percentage</b>
Amatrol Quiz	12	100	20
LAP (learning activity pack)	12	100	50
Skill Accomplishment Test	12	100	10
Final Exam	1	100	20

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

1. Take the prequiz on the Amatrol LMS, Review the material, Take the quiz for that topic.
2. Complete the LAP (learning activity packet) on the trainer for your course. Have all exercises signed off by the instructor.
3. Complete the skill assessment for that topic.

**Course Number:** \_\_\_\_\_  
**Semester / Session:** \_\_\_\_\_

**Course Title:** \_\_\_\_\_  
**Start / End Date:** \_\_\_\_\_

**III.** Students are expected to work in a manner that is respectful of others. This includes avoiding loud or abusive language.