Washtenaw Community College Comprehensive Report

UAT 240 Basic Electricity (UA 2006)
Effective Term: Fall 2020

Course Cover

Division: Advanced Technologies and Public Service Careers
Department: United Association Department
Discipline: United Association Training
Course Number: 240
Org Number: 28200
Full Course Title: Basic Electricity (UA 2006)
Transcript Title: Basic Electricity (UA 2006)
Is Consultation with other department(s) required: No
Publish in the Following: College Catalog
Reason for Submission: Course Change
Change Information:
Consultation with all departments affected by this course is required.
Course title
Course description
Outcomes/Assessment
Objectives/Evaluation
Rationale: Update United Association course
Proposed Start Semester: Fall 2020
Course Description: In this course, students will develop teaching methods for safely working with electricity on job sites. Students will study electrical theory and safety, along with hands-on demonstrations and activities. Ground fault circuits (GFCI), circuit breakers, fuses and circuit capacities will be discussed along with the proper use of electrical testing equipment, including multi-meters for measuring electrical circuits. Students will navigate UA resources for use in a customized Blackboard course. The title of this course was previously Applied Electrical Fundamentals. Limited to United Association program participants.

Course Credit Hours

Variable hours: No
Credits: 1.5
The following Lecture Hour fields are not divisible by 15: Student Min ,Instructor Min
Lecture Hours: Instructor: 22.5 **Student:** 22.5
The following Lab fields are not divisible by 15: Student Min, Instructor Min
Lab: Instructor: 1.5 **Student:** 1.5
Clinical: Instructor: 0 **Student:** 0

Total Contact Hours: Instructor: 24 **Student:** 24
Repeatable for Credit: NO
Grading Methods: Letter Grades
Audit
Are lectures, labs, or clinicals offered as separate sections?: NO (same sections)

College-Level Reading and Writing

College-level Reading & Writing

College-Level Math

Requisites

General Education

Degree Attributes

Below College Level Pre-Reqs

Request Course Transfer

Proposed For:

Student Learning Outcomes

1. Identify and apply electrical theory to manage hazards associated with electrical work.
   Assessment 1
   Assessment Tool: Outcome-related multiple-choice exam questions
   Assessment Date: Fall 2020
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Answer key
   Standard of success to be used for this assessment: 80% of the students will score 80% or higher.
   Who will score and analyze the data: U.A. instructors

2. Operate testing equipment to measure voltage, amperage and resistance.
   Assessment 1
   Assessment Tool: Skills demonstration
   Assessment Date: Fall 2020
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Skills checklist
   Standard of success to be used for this assessment: 80% of the students will score 80% or higher.
   Who will score and analyze the data: U.A. instructors

3. Demonstrate the use of United Association Online Learning Resources (UAOLR) by preparing instructional activities within Blackboard.
   Assessment 1
   Assessment Tool: Presentation
   Assessment Date: Fall 2020
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Observational checklist
   Standard of success to be used for this assessment: 80% of the students will score 80% or higher.
   Who will score and analyze the data: U.A. instructors

Course Objectives

1. Identify electrical symbols and types of circuits when reading wiring diagrams.
2. Develop concepts and strategies needed to teach apprentices about electrical safety and the use of test meters to measure voltage, amperage, and resistance.

3. Develop concepts and strategies needed to teach apprentices how to employ wiring diagrams in the completion of tasks with the Hampden trainer.
4. Discuss electrical theory.
5. Review safety issues and precautions, including Personal Protection Equipment (PPE) when working with electricity.
6. Review and perform Lockout/Tagout procedures.
7. Calculate voltage, current, and resistance using Ohm's Law.
8. Discuss and complete the "3-point" Meter accuracy test.
9. Evaluate measurement calculations and results for identifying troubleshooting procedures.
10. Design electrical circuits as described in the UA Circuit Builder trainer.
11. Compare and contrast textbook examples with practical field applications.
12. Create instructional activities for Blackboard using UAOLR and other online resources.

New Resources for Course

Course Textbooks/Resources

Textbooks

International Pipe Trades Joint Training Committee, Inc.. *Basic Electricity*, First ed. International Pipe Trades Joint Training C, 2015

Manuals

Periodicals

Software

Equipment/Facilities

Level I classroom

Reviewer	Action	Date
Faculty Preparer:		
Tony Esposito	*Faculty Preparer*	*May 20, 2020*
Department Chair/Area Director:		
Marilyn Donham	*Recommend Approval*	*May 20, 2020*
Dean:		
Jimmie Baber	*Recommend Approval*	*May 27, 2020*
Curriculum Committee Chair:		
Lisa Veasey	*Recommend Approval*	*Jul 23, 2020*
Assessment Committee Chair:		
Shawn Deron	*Recommend Approval*	*Aug 25, 2020*
Vice President for Instruction:		
Kimberly Hurns	*Approve*	*Aug 26, 2020*