

Washtenaw Community College Comprehensive Report

UAT 240 Applied Electrical Fundamentals

Effective Term: Spring/Summer 2014

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: Applied Electrical Fundamentals

Transcript Title: Applied Electric Fundamentals

Is Consultation with other department(s) required: No

Publish in the Following: College Catalog , Web Page

Reason for Submission: Three Year Review / Assessment Report

Change Information:

Course description

Credit hours

Total Contact Hours

Outcomes/Assessment

Objectives/Evaluation

Rationale: Course update

Proposed Start Semester: Spring/Summer 2014

Course Description: In this course, students will learn about methods and techniques used to teach applied electrical fundamentals. Following a review of the fundamental electrical principles and the electrical controls commonly used in the pipe trades, students will learn to instruct apprentices how to read and interpret symbols, schematics and wiring diagrams, use simple test equipment. Safety will be stressed as apprentices are taught to make checks on circuits and to measure voltage, amperage and resistance. Limited to United Association program participants.

Course Credit Hours

Variable hours: No

Credits: 1

Lecture Hours: Instructor: 15 **Student:** 15

Lab: Instructor: 0 **Student:** 0

Clinical: Instructor: 0 **Student:** 0

Other: Instructor: 5 **Student:** 5

Total Contact Hours: Instructor: 20 **Student:** 20

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. Demonstrate teaching practicum using UA approved materials on concepts and skills of applied electrical fundamentals.

Assessment 1

Assessment Tool: Presentation

Assessment Date: Spring/Summer 2014

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Skill checklist with rubric

Standard of success to be used for this assessment: 75% of students will score 75% or above.

Who will score and analyze the data: Departmental faculty

2. Demonstrate methodologies of teaching when instructing apprentices about the proper maintenance and repair procedures on electrical components.

Assessment 1

Assessment Tool: Skill assessment

Assessment Date: Spring/Summer 2014

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Skill checklist with rubric

Standard of success to be used for this assessment: 75% of students will score 75% or above.

Who will score and analyze the data: Departmental faculty

Course Objectives

1. Recall electrical symbols and types of circuits when reading wiring diagrams.

Matched Outcomes

2. Develop concepts and strategies needed to teach apprentices about electrical safety and the use of test meters to measure voltage, amperage, and resistance.

Matched Outcomes

3. Develop concepts and strategies needed to teach apprentices how to distinguish the array of switches, relays, contractors, thermostats, and solenoids.

Matched Outcomes

4. Develop concepts and strategies needed to teach apprentices to apply principles of troubleshooting electrical circuits.

Matched Outcomes

5. Identify and appropriately use course materials.

Matched Outcomes

6. Develop concepts and strategies needed to teach apprentices how to identify, apply and justify important relevant safety practices.

Matched Outcomes

7. Develop concepts and strategies needed to teach apprentices how to employ wiring diagrams in the completion of tasks with the Hampden trainer.

Matched Outcomes

8. Develop concepts and strategies needed to teach apprentices how to analyze various problem scenarios, choose the appropriate wiring diagram and interpret areas that apply to the problem at hand.

Matched Outcomes

9. Develop concepts and strategies needed to teach apprentices how to choose from various common electrical devices which are to be used to accomplish various tasks.

Matched Outcomes

10. Develop concepts and strategies needed to teach apprentices how to demonstrate basic electrical principles by performing various experiments.

Matched Outcomes

New Resources for Course

Course Textbooks/Resources

Textbooks

International Pipe Trades Joint Training Committee, Inc.. *Basic Electricity*, ed. International Pipe Trades Joint Training C, 2001

Manuals

Periodicals

Software

Equipment/Facilities

Level I classroom

Reviewer

Action

Date

Faculty Preparer:

Amanda Scheffler

Faculty Preparer

Jun 27, 2013

Department Chair/Area Director:

Scott Klapper

Recommend Approval

Feb 03, 2014

Dean:

Marilyn Donham

Recommend Approval

Feb 05, 2014

Vice President for Instruction:

Bill Abernethy

Approve

Mar 31, 2014