Washtenaw Community College Comprehensive Report

UAT 244 Fundamentals of Variable Frequency Drives
Effective Term: Spring/Summer 2016

Course Cover

Division: Advanced Technologies and Public Service Careers
Department: United Association Department
Discipline: United Association Training
Course Number: 244
Org Number: 28200
Full Course Title: Fundamentals of Variable Frequency Drives
Transcript Title: Fund Variable Frequency Drives
Is Consultation with other department(s) required: No
Publish in the Following: College Catalog , Web Page
Reason for Submission: Course Change
Change Information:
Consultation with all departments affected by this course is required.
Course title
Course description
Credit hours
Total Contact Hours
Outcomes/Assessment
Rationale: Change credit hours and contact hours, assessment date and minor text changes.
Proposed Start Semester: Fall 2015
Course Description: In this course, students will use presentation materials and teaching techniques to introduce a VFD class in their curriculum. Students who take this course should have a good knowledge base of electrical controls and AC induction motors and should be working in the HVAC service field. Installation, setup/programming and troubleshooting techniques will be covered along with associated hands-on activities. Limited to United Association program participants.

Course Credit Hours

Variable hours: No
Credits: 1
Lecture Hours: Instructor: 15 **Student:** 15
The following Lab fields are not divisible by 15: Student Min, Instructor Min
Lab: Instructor: 5 **Student:** 5
Clinical: Instructor: 0 **Student:** 0

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. Explain the concepts of variable frequency drives to apprentices and journey-people at the home local.
   Assessment 1
   Assessment Tool: Teaching demonstration
   Assessment Date: Fall 2015
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: 75% of all students
   How the assessment will be scored: Departmentally-developed rubric
   Standard of success to be used for this assessment: 75% will score 11 or higher out of 16.
   Who will score and analyze the data: UAT faculty

2. Demonstrate techniques for troubleshooting variable frequency drives to apprentices and journey-people.
   Assessment 1
   Assessment Tool: Teaching demonstration
   Assessment Date: Fall 2015
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: 75% of all students
   How the assessment will be scored: Departmentally-developed rubric
   Standard of success to be used for this assessment: 75% will score 11 or higher out of 16.
   Who will score and analyze the data: UAT faculty

3. Locate and utilize UA and vendor supplied teaching materials for variable frequency drives effectively.
   Assessment 1
   Assessment Tool: Teaching demonstration
   Assessment Date: Fall 2015
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: 75% of all students
   How the assessment will be scored: Departmentally-developed rubric
   Standard of success to be used for this assessment: 75% will score 11 or higher out of 16.
   Who will score and analyze the data: UAT faculty

Course Objectives

1. Explain concepts of VFD.
2. Identify field applications of VFD.
3. Demonstrate use of meters in troubleshooting VFDs.
4. Explain electrical safety precautions when servicing VFDs.
5. Present standard UA lectures on VFD.
6. Incorporate vendor supplements into presentations.

New Resources for Course

Course Textbooks/Resources

Textbooks
Manuals
Periodicals
Software

Equipment/Facilities

Level III classroom

Reviewer	Action	Date
Faculty Preparer:		
Justin Carter	*Faculty Preparer*	*Jun 25, 2015*
Department Chair/Area Director:		
Scott Klapper	*Recommend Approval*	*Jul 02, 2015*
Dean:		
Brandon Tucker	*Recommend Approval*	*Jul 07, 2015*
Curriculum Committee Chair:		
Kelley Gottschang	*Recommend Approval*	*Sep 29, 2015*
Assessment Committee Chair:		
Michelle Garey	*Recommend Approval*	*Sep 29, 2015*
Vice President for Instruction:		
Michael Nealon	*Approve*	*Oct 06, 2015*