Washtenaw Community College Comprehensive Report

MST 112 Advanced Powder Coating
Effective Term: Winter 2017

Course Cover

Division: Advanced Technologies and Public Service Careers
Department: Motorcycle Technology
Discipline: Motorcycle Service Technology
Course Number: 112
Org Number: 14140
Full Course Title: Advanced Powder Coating
Transcript Title: Advanced Powder Coating
Is Consultation with other department(s) required: No
Publish in the Following: College Catalog , Time Schedule , Web Page
Reason for Submission: New Course
Change Information:
Rationale: Increasing demand from end-use industries and growing technological advances coupled with favorable regulations has resulted in a significant increase in market demand for powder coating trained personnel across a host of employment markets.
Proposed Start Semester: Winter 2017
Course Description: In this course, students are exposed to more complex techniques used in the powder coating process. Advanced powder coating is a multiple layered coating process that is an alternative to custom painting. Students will further develop skills in tooling, media and procedures used to powder coat by applying them to larger components. Color matching, powder coating step-by-step process identification and proper media selection for specific applications will be discussed.

Course Credit Hours

Variable hours: No
Credits: 3
Lecture Hours: Instructor: 30 **Student:** 30
Lab: Instructor: 30 **Student:** 30
Clinical: Instructor: 0 **Student:** 0

Total Contact Hours: Instructor: 60 **Student:** 60
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

No Level Required

Requisites

Prerequisite
MST 106 minimum grade "C"

General Education

Request Course Transfer
Proposed For:

Student Learning Outcomes

1. Determine the steps and materials required to complete projects using standard trade practices.
   ### Assessment 1
   Assessment Tool: Chapter test including multiple choice, T/F, and fill in the blank
   Assessment Date: Winter 2018
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All Sections
   Number students to be assessed: All Students
   How the assessment will be scored: Answer key
   Standard of success to be used for this assessment: 70% of the students will score 70% or higher.
   Who will score and analyze the data: Departmental Faculty

2. Determine and perform correct surface preparation(s) for powder coating using blasting and sanding to remove rust and/or other contaminants.
   ### Assessment 1
   Assessment Tool: Student achievement checklist
   Assessment Date: Winter 2018
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All Sections
   Number students to be assessed: All students
   How the assessment will be scored: Departmentally-developed rubric
   Standard of success to be used for this assessment: 70% of the students will score 70% or higher.
   Who will score and analyze the data: Departmental faculty

3. Identify and correct defects during the powder coating process.
   ### Assessment 1
   Assessment Tool: Student achievement checklist
   Assessment Date: Winter 2018
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: All students
   How the assessment will be scored: Departmentally-developed rubric
   Standard of success to be used for this assessment: 70% of the students will score 70% or higher.
   Who will score and analyze the data: Departmental faculty

4. Differentiate materials and equipment required for large components, and operate equipment to powder coat large motorcycle components.
   ### Assessment 1
   Assessment Tool: Student achievement checklist
   Assessment Date: Winter 2018
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: All students
   How the assessment will be scored: Departmentally-developed rubric
   Standard of success to be used for this assessment: 70% of the students will score 70% or higher.
   Who will score and analyze the data: Departmental faculty

5. Recognize the requirements for time, space and material for complex and large powder coating jobs, and create time schedules and cost estimates.

Assessment 1

Assessment Tool: Chapter test including multiple choice, T/F, short answer and fill in the blank

Assessment Date: Winter 2018

Assessment Cycle: Every Three Years

Course section(s)/other population: All sections

Number students to be assessed: All Students

How the assessment will be scored: Answer key

Standard of success to be used for this assessment: 70% of the students will score 70% or higher.

Who will score and analyze the data: Departmental Faculty

Course Objectives

1. Research the sources, types and differences of advanced powder coating media.
2. Develop cost estimates for multiple stage powder coating projects.
3. Develop and document a plan for component preparation before and between powder coating stages.
4. Correctly identify the base substrate material.
5. Identify appropriate masking and plugging techniques for multi-stage powder coatings for larger components.
6. Apply appropriate masking and plugging techniques for multi-stage powder coatings for larger components.
7. Select correct powder coating media for the desired type and final surface finish.
8. Select the appropriate application techniques for the desired finish.
9. Apply multiple stage powder coatings for larger component refinishing.

New Resources for Course

Course Textbooks/Resources

Textbooks
Manuals
Periodicals
Software

Equipment/Facilities

Level III classroom

Reviewer	Action	Date
Faculty Preparer:		
Shawn Deron	Faculty Preparer	Mar 31, 2016
Department Chair/Area Director:		
Shawn Deron	Recommend Approval	Apr 05, 2016
Dean:		
Brandon Tucker	Recommend Approval	Apr 07, 2016
Curriculum Committee Chair:		
Kelley Gottschang	Recommend Approval	Apr 18, 2016
Assessment Committee Chair:		
Michelle Garey	Recommend Approval	Apr 21, 2016
Vice President for Instruction:		
Michael Nealon	Approve	May 02, 2016